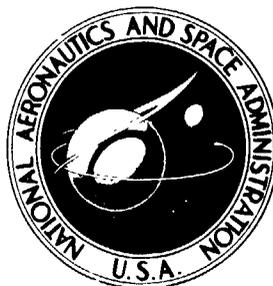


NASA TECHNICAL NOTE



NASA TN D-8161

NASA TN D-8161

(NASA-TN-D-8161) DATA FOR NASA'S AVE 4
EXPERIMENT: 25 mb SOUNDING DATA AND
SYNOPTIC CHARTS (NASA) 56 p HC \$4.50

N76-19673

CSSL 04B

H1/47

Unclas
23042



DATA FOR NASA'S AVE IV EXPERIMENT:
25 MB SOUNDING DATA AND SYNOPTIC CHARTS

Nancy F. Fucik and Robert E. Turner

George C. Marshall Space Flight Center

Marshall Space Flight Center, Ala. 35812



TECHNICAL REPORT STANDARD TITLE PAGE

1. REPORT NO. NASA TN D-8161	2. GOVERNMENT ACCESSION NO.	3. RECIPIENT'S CATALOG NO.	
4. TITLE AND SUBTITLE Data for NASA's AVE IV Experiment: 25 mb Sounding Data and Synoptic Charts		5. REPORT DATE March 1976	6. PERFORMING ORGANIZATION CODE M134
		8. PERFORMING ORGANIZATION REPORT #	
7. AUTHOR(S) Nancy F. Fucik* and Robert E. Turner		10. WORK UNIT NO.	
9. PERFORMING ORGANIZATION NAME AND ADDRESS George C. Marshall Space Flight Center Marshall Space Flight Center, Alabama 35812		11. CONTRACT OR GRANT NO.	
		13. TYPE OF REPORT & PERIOD COVERED Technical Note	
12. SPONSORING AGENCY NAME AND ADDRESS National Aeronautics and Space Administration Washington, D.C. 20546		14. SPONSORING AGENCY CODE	
		15. SUPPLEMENTARY NOTES This report is based on work performed under Contract NAS8-26751 and is published to make available a unique set of atmospheric data records for research use by the scientific community. The project was conducted under the operational direction of Robert E. Turner and Charles K. Hill of the Marshall Space Flight Center.	
16. ABSTRACT This report describes the AVE IV Experiment and presents tabulated rawinsonde data at 25 mb intervals from the surface to 25 mb for the 42 stations participating in the experiment. Soundings were taken between 0000 GMT, April 24, and 1200 GMT, April 25, 1975. The methods of data processing and accuracy are briefly discussed. Synoptic charts prepared from the data are presented, as well as an example of contact data.			
<i>OR INCL PAGE IS OF POOR QUALITY</i>			
*Texas A&M University, College Station, Texas.			
17. KEY WORDS Meteorology Atmospheric variability Soundings Synoptic Mesoscale		18. DISTRIBUTION STATEMENT Category 47	
19. SECURITY CLASSIF. (of this report) Unclassified	20. SECURITY CLASSIF. (of this page) Unclassified	21. NO. OF PAGES 56	22. PRICE \$4.25

ACKNOWLEDGMENTS

The tasks of processing the AVE IV data and preparing this report required the efforts of approximately 15 people. The work is often tedious and yet must be performed with great care and speed. The authors are grateful to every person who worked diligently behind the scenes to accomplish this important task.

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. THE AVE IV EXPERIMENT	2
III. DISCUSSION OF BASIC DATA	2
A. Collection	2
B. Methods of Processing	2
IV. DISCUSSION OF SOUNDING DATA	5
A. Accuracy Estimates	5
B. Tabulated Data	6
V. SYNOPTIC CHARTS	6
REFERENCES	49
APPENDIX A: SOUNDING DATA	51
24 April 1975, 0000 GMT	52
24 April 1975, 0600 GMT	92
24 April 1975, 1200 GMT	134
24 April 1975, 1500 GMT	176
24 April 1975, 1800 GMT	217
24 April 1975, 2100 GMT	258
25 April 1975, 0000 GMT	300
25 April 1975, 0600 GMT	342
25 April 1975, 1200 GMT	382
APPENDIX B: WIND DATA FOR WALLOPS ISLAND, VIRGINIA AND FORT TOTTEN, NEW YORK	423

LIST OF ILLUSTRATIONS

Figure	Title	Page
1.	Rawinsonde stations participating in the AVE IV experiment	3
2.	Example of contact data from the AVE IV experiment	7
3.	Synoptic charts for 0000 GMT, 24 April 1975	13
4.	Synoptic charts for 0600 GMT, 24 April 1975	17
5.	Synoptic charts for 1200 GMT, 24 April 1975	21
6.	Synoptic charts for 1500 GMT, 24 April 1975	25
7.	Synoptic charts for 1800 GMT, 24 April 1975	29
8.	Synoptic charts for 2100 GMT, 24 April 1975	33
9.	Synoptic charts for 0000 GMT, 25 April 1975	37
10.	Synoptic charts for 0600 GMT, 25 April 1975	41
11.	Synoptic charts for 1200 GMT, 25 April 1975	45

LIST OF TABLES

Table	Title	Page
1.	Atmospheric Variability Experiments	1
2.	Rawinsonde Stations Participating in AVE IV Experiment	4
3.	Unusual or Erroneous Soundings	5
4.	Explanation of Column Headings of Tabulated Sounding Data for the AVE IV Experiment	11
5.	List of Missing Soundings	12

**DATA FOR NASA'S AVE IV EXPERIMENT: 25 MB
SOUNDING DATA AND SYNOPTIC CHARTS**

I. INTRODUCTION

As of this date, four NASA Atmospheric Variability Experiments have been conducted. Dates the soundings were taken and the number of participating stations are listed in Table 1.

TABLE 1. ATMOSPHERIC VARIABILITY EXPERIMENTS

AVE	Date	Number of Participating Stations
I	19-22 February 1964	30
IIP	11-12 May 1974	54
III	6-7 February 1975	41
IV	24-25 April 1975	42

Data for the first NASA Atmospheric Variability Experiment were presented by Scoggins and Smith [1,2], and a compilation of studies from AVE I has been presented by Scoggins et al. [3]. The reduction procedures and accuracy of the data from the second NASA Atmospheric Variability (Pilot) Experiment (AVE IIP) have been described by Fuelberg [4], while the data were presented by Scoggins and Turner [5] and by Fuelberg and Turner [6]. Data for AVE III have been presented by Fuelberg and Turner [7]. Studies using AVE IIP and AVE III data, including satellite and radar data, are under way. Results from AVE I, AVE IIP, and AVE III have demonstrated conclusively that systems with a time scale of less than 12 hours are important features of the atmosphere and should be studied in greater detail with additional AVE-type experiments.

To provide these additional data, the fourth Atmospheric Variability Experiment (AVE IV) was conducted on April 24-25, 1975. This report presents rawinsonde data and synoptic charts for AVE IV. Selected data from other sources such as satellite, radar, and surface stations are available but are not presented in this report.

II. THE AVE IV EXPERIMENT

Forty-two rawinsonde stations participated in the AVE IV experiment. These stations are shown in Figure 1 and listed in Table 2. Soundings were taken at nine time periods April 24 at 0000 GMT, 0600 GMT, 1200 GMT, 1500 GMT, 1800 GMT, and 2100 GMT, and on April 25 at 0000 GMT, 0600 GMT, and 1200 GMT. The objectives of the AVE IV are to evaluate the accuracy and representativeness of quantitative satellite data, to investigate the temporal and spatial variability of atmospheric parameters and systems of a scale smaller than that normally detected from data available at 12 h intervals, and to investigate the structure and dynamics of the atmosphere associated with severe weather. To achieve these goals it was desirable to conduct AVE IV during a period when large horizontal temperature gradients existed, convective activity was present, a jet stream was present, a variety of cloud conditions existed, and rapid changes in weather patterns were expected to occur.

III. DISCUSSION OF BASIC DATA

A. Collection

Original information from which sounding data were computed was sent to the Aerospace Environment Division, NASA Marshall Space Flight Center (MSFC), Alabama. Texas A&M University personnel extracted ordinate and angle data at each pressure contact and keypunched these and baseline data into cards. All sounding computations were made on an IBM 360/65 computer at Texas A&M University.

B. Methods of Processing

The procedure used to compute soundings is the same as that used on the AVE III data and is described by Fuelberg [4] and Fuelberg and Turner [7]. All keypunched data were checked for errors by calculating centered differences on the input data. Processed soundings were further checked by calculating centered differences of wind direction and speed and by calculating the lapse rates of temperature and dew point. All questionable data were checked with the original strip chart information, and any data found to be erroneous were corrected. All unusual or erroneous soundings are listed in Table 3.

The final data sets of the AVE IV experiment consist of data computed at each pressure contact and at 25 mb intervals. Thermodynamic quantities were computed at each pressure contact, while wind data were computed from 30 s intervals by means of centered finite differences and subsequently smoothed and interpolated to each pressure contact. These detailed profiles were then interpolated to give the 25 mb data presented in this report.

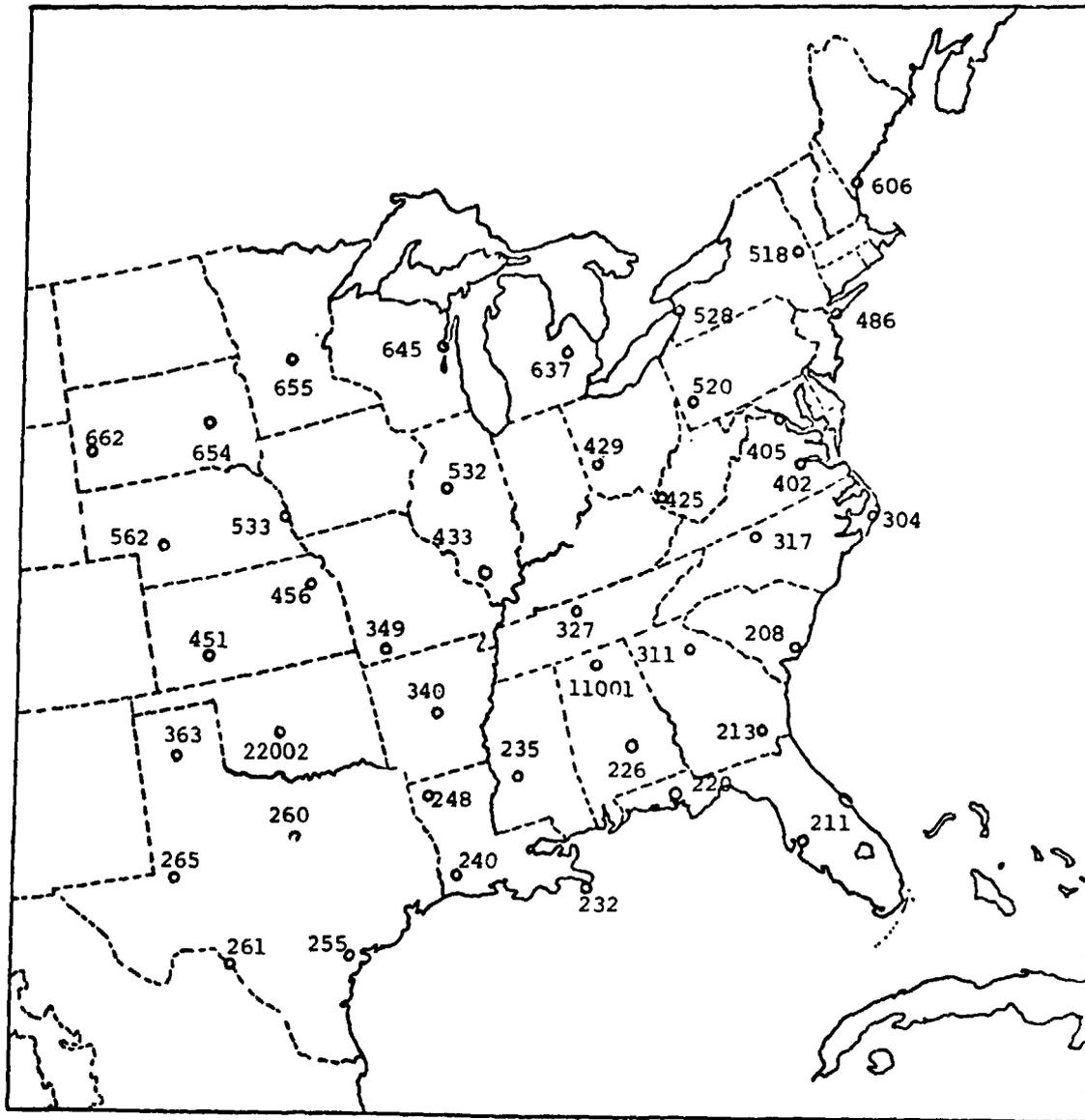


Figure 1. Rawinsonde stations participating in the AVE IV experiment.

TABLE 2. RAWINSONDE STATIONS PARTICIPATING
IN AVE IV EXPERIMENT

Station Number	Location
208 (CHS)	Charleston, South Carolina
211 (TPA)	Tampa, Florida
213 (AYS)	Waycross, Georgia
220 (VPS)	Apalachicola, Florida
226 (CEN)	Centerville, Alabama
232 (BVE)	Boothville, Louisiana
235 (JAN)	Jackson, Mississippi
240 (LCH)	Lake Charles, Louisiana
248 (SHV)	Shreveport, Louisiana
255 (VCT)	Victoria, Texas
260 (SEP)	Stephenville, Texas
261 (DRT)	Del Rio, Texas
265 (MAF)	Midland, Texas
304 (HAT)	Hatteras, North Carolina
311 (AHN)	Athens, Georgia
317 (GSO)	Greensboro, North Carolina
327 (BNA)	Nashville, Tennessee
340 (LIT)	Little Rock, Arkansas
349 (UMN)	Monett, Missouri
363 (AMA)	Amarillo, Texas
402 (WAL)	Wallops Island, Virginia
405 (IAD)	Sterling, Virginia (Dulles Airport)
425 (HTS)	Huntington, West Virginia
429 (DAY)	Dayton, Ohio
433 (SLO)	Salem, Illinois
451 (DDC)	Dodge City, Kansas
456 (TOP)	Topeka, Kansas
486 (JFK)	Fort Totten, New York (Kennedy Airport)
518 (ALB)	Albany, New York
520 (PIT)	Pittsburg, Pennsylvania
528 (BUF)	Buffalo, New York
532 (PIA)	Peoria, Illinois
553 (OMA)	Omaha, Nebraska
562 (LBF)	North Platte, Nebraska
606 (PWM)	Portland, Maine
637 (FNT)	Flint, Michigan
645 (GRB)	Green Bay, Wisconsin
654 (HUR)	Huron, South Dakota
655 (STC)	St. Cloud, Minnesota
662 (RAP)	Rapid City, South Dakota
11001 (MFS)	Marshall Space Flight Center, Alabama
22002 (FSI)	Fort Sill, Oklahoma

TABLE 3. UNUSUAL OR ERRONEOUS SOUNDINGS

Station	Date/GMT	Error
349 Monett, Missouri	24/1200 25/0000	Sondes released during rainstorm.
429 Dayton, Ohio	24/0600	Sonde released during thunderstorm.
235 Jackson, Mississippi	24/2100	Height and temperature fields seem to be high. No known reason.
402 Wallops Island, Virginia	All time periods	Angle data were not available for Stations 402 and 486 to compute winds using AVE procedure. Winds computed by the National Weather Service are given in the appendix.
486 Fort Totten, New York	All time periods	

IV. DISCUSSION OF SOUNDING DATA

A. Accuracy Estimates

Estimates of the rms errors in the thermodynamic quantities of the AVE IV data are the same as those given by Scoggins and Smith [1] for AVE I, Fuelberg [4] for AVE IIP, and Fuelberg and Turner [7] for AVE III. These estimates are:

<u>Parameter</u>	<u>Approximate rms Error</u>
Temperature	1°C
Pressure	2.3 mb from surface to 400 mb; 1.1 mb between 400 and 100 mb; 0.7 mb between 100 and 10 mb.
Humidity	10 percent
Pressure Altitude	10 gpm at 500 mb; 20 gpm at 300 mb; 50 gpm at 50 mb.

The rms errors for wind speed and direction are difficult to describe since they are a function of tracking geometry and other factors. The rms errors for the AVE IV wind data are the same as those given by Fuelberg [4] for the AVE IIP data. Maximum rms errors for winds computed at 30 s intervals (based on the worst geometric tracking configuration) are: at 700 mb approximately 2.5 mps at an elevation angle of 10° and approximately 0.5 mps at an elevation angle of 40° ; at 500 mb, 4.5 mps and 0.8 mps for the same elevation angles; and at 300 mb, 7.8 mps, and 1.0 mps, respectively. After assuming typical values of scalar wind speed at the various levels, maximum rms errors in wind direction were determined. The maximum rms errors at 700 mb range from approximately 9.5° at an elevation angle of 10° to approximately 1.3° at an elevation angle of 40° . At 500 mb the errors are 13.4° and 1.8° at the same elevation angles, while at 300 mb the maximum errors are 18.0° and 2.5° , respectively. The accuracy of the wind data at pressure contacts and at 25 mb intervals is greater than that stated for the 30 s winds because of the added smoothing and interpolation performed. In addition, errors cited for the 30 s winds were maxima for the stated conditions.

B. Tabulated Data

An example of AVE IV contact data is given in Figure 2. An explanation of the column headings is given in Table 4, and a list of missing soundings is given in Table 5. In Figure 2, the first line of data for the time of 0.0 min is surface data. A series of nines is used to indicate missing data. The three numbers in the upper right-hand side of each page are the number of pressure contacts computed, the minimum pressure obtained (mb), and an angle identifier with the value 0 for 30 s angle input and 1 for 1 min angle input. The contact data are available in paper form or on magnetic tape from the George C. Marshall Space Flight Center, Aerospace Environment Division, Space Sciences Laboratory, Marshall Space Flight Center, Alabama 35812.

The contact data interpolated for 25 mb intervals are presented in Appendices A and B. The column headings are identical to those used for the contact data and are described in Table 4. The soundings are arranged by time and appear in ascending order by station number for each time. The first line of data indicates the surface report which is followed by data from 1000 to 25 mb. In cases where the surface pressure is less than the given 25 mb pressure value, missing data (nines) are indicated for each quantity. This is also done when the sounding terminates before the 25 mb level is reached.

V. SYNOPTIC CHARTS

Synoptic charts for the surface-, 850-, 700-, 500-, 400-, 300-, and 200-mb levels for each observation time are presented in Figures 3 through 11. The surface maps were prepared by the National Weather Service. The charts are intended to depict the overall synoptic situation during the observational period and should be reanalyzed when accuracy is a key factor.

ORIGINAL PAGE IS
OF POOR QUALITY

STATION NO. 208
CHARLESTON, SC

23 APRIL 1975
2315 GMT

155 18. 0

TIME MIN	CATCT	WEIGHT GPH	PRES MB	TEMP DG C	DEW PT DG C	DIR DG	SPEED M/SEC	U COMP M/SEC	V COMP M/SEC	POT T DG K	E POT T DG K	MX RTO GM/KG	RM PCT	RANGE NM	AZ DG
0.0	4.3	13.0	1024.0	21.1	12.8	190.0	5.2	0.9	5.1	293.5	317.4	9.1	59.0	0.0	0.
0.2	5.0	69.5	1015.0	21.0	12.6	182.5	6.6	0.3	6.6	294.2	318.5	9.2	59.5	0.3	4.
0.6	6.0	216.3	1000.0	20.2	12.4	183.0	6.7	0.3	6.6	294.5	318.6	9.1	61.0	0.3	4.
1.0	7.0	322.4	988.0	18.1	12.1	184.7	6.9	0.4	6.9	294.5	318.3	9.0	64.0	0.4	3.
1.4	8.0	436.2	975.0	16.2	12.0	182.6	7.8	0.3	7.8	294.7	318.7	9.1	66.9	0.4	4.
1.6	5.0	523.4	964.0	17.0	11.7	180.9	8.1	0.1	8.1	294.4	318.2	9.1	70.9	0.7	4.
1.9	10.0	631.3	953.0	16.0	11.7	178.2	8.4	-0.3	8.4	294.4	318.2	9.1	75.9	0.9	3.
2.4	11.0	757.1	939.0	15.0	12.3	179.1	7.7	-0.1	7.7	294.6	319.6	9.5	82.6	1.1	2.
2.7	12.0	866.1	927.0	14.0	12.3	182.0	8.0	0.3	8.0	294.8	320.4	9.7	89.3	1.3	1.
3.1	13.0	976.1	915.0	13.0	12.0	182.7	9.0	1.0	9.0	294.8	320.4	9.7	93.7	1.4	2.
3.4	14.0	1077.9	904.0	12.1	11.6	190.3	10.0	1.8	9.8	294.8	320.1	9.6	97.3	1.6	2.
3.7	15.0	1190.1	892.0	11.3	10.8	182.6	10.3	2.3	10.1	295.1	319.4	9.2	96.5	1.8	3.
4.2	16.0	1222.4	878.0	10.7	10.1	195.3	10.4	2.7	10.0	295.8	319.5	8.9	96.0	2.1	5.
4.5	17.0	1427.6	867.0	9.5	9.0	186.4	10.4	2.9	10.0	295.5	317.7	8.3	96.7	2.3	6.
4.9	18.0	1533.6	856.0	8.6	8.1	197.5	9.8	3.0	9.4	295.6	318.8	8.0	97.0	2.5	7.
5.1	19.0	1640.7	845.0	8.0	5.7	197.8	9.7	3.0	9.2	295.9	318.4	8.0	85.3	2.7	8.
5.5	20.0	1739.2	835.0	8.9	4.6	157.9	9.7	3.0	9.2	297.8	315.3	6.4	74.3	2.9	8.
5.9	21.0	1879.4	821.0	8.0	-12.9	158.6	9.8	3.1	9.3	298.7	303.8	1.7	19.9	3.1	9.
6.3	22.0	1880.6	811.0	8.0	-10.5	200.2	9.8	3.6	9.1	298.8	305.0	2.1	25.6	3.4	10.
6.6	23.0	2053.0	800.0	7.3	-12.3	201.8	9.5	3.5	8.8	299.2	305.7	1.9	23.2	3.5	10.
6.9	24.0	2156.4	790.0	6.6	-10.9	203.7	9.1	3.6	8.3	299.5	305.7	2.1	27.3	3.7	11.
7.3	25.0	2300.7	780.0	5.6	-8.9	207.3	8.2	3.7	7.3	299.6	306.8	2.5	34.3	3.9	12.
7.7	26.0	2438.0	767.0	5.0	-8.6	212.0	7.2	3.9	6.1	300.5	308.1	2.6	36.6	4.1	12.
8.1	27.0	2545.1	757.0	5.0	-9.5	221.0	6.4	4.2	4.9	301.6	309.0	2.4	33.9	4.2	13.
8.4	28.0	2644.5	746.0	4.9	-19.5	236.0	6.0	4.5	3.9	302.5	305.6	1.1	15.1	4.3	14.
8.7	29.0	2763.2	737.0	4.0	-19.5	237.2	5.8	4.9	3.2	302.6	306.0	1.1	16.0	4.4	14.
9.1	30.0	2874.2	727.0	3.9	-19.6	247.1	5.8	5.6	2.3	303.6	307.0	1.1	16.0	4.5	15.
9.4	31.0	2957.7	716.0	2.8	-19.9	252.2	5.9	5.6	1.8	303.6	307.2	1.1	16.8	4.6	16.
9.8	32.0	3055.9	707.0	1.9	-16.9	255.2	6.0	5.8	1.5	303.5	308.4	1.5	24.1	4.6	16.
10.2	33.0	3203.1	698.0	1.4	-15.8	255.9	6.2	6.1	1.5	303.4	309.3	1.6	26.4	4.7	20.
10.5	34.0	3319.1	688.0	0.7	-15.7	255.6	6.4	6.2	1.4	305.0	310.0	1.6	28.0	4.8	21.
10.8	35.0	3424.8	679.0	0.4	-15.9	257.4	6.6	6.4	1.4	305.7	309.6	1.3	21.7	4.9	23.
11.2	36.0	3567.7	667.0	0.2	-23.5	282.1	6.6	6.6	0.9	307.0	309.8	0.9	14.8	5.0	24.
11.6	37.0	3668.6	657.0	-0.1	-24.9	278.4	6.6	6.6	0.1	308.0	310.5	0.8	13.3	5.0	24.
12.0	38.0	3768.8	646.0	-0.9	-24.9	278.4	6.4	6.4	-0.9	308.3	310.8	0.5	7.2	5.1	28.
12.3	39.0	3910.3	639.0	-1.2	-32.0	286.4	6.4	6.1	-1.8	309.1	310.5	0.4	7.4	5.1	29.
12.7	40.0	4023.3	630.0	-1.4	-32.0	295.2	6.7	6.1	-2.9	310.2	311.6	0.4	7.5	5.2	30.
13.2	41.0	4163.4	619.0	-2.0	-32.4	299.6	7.5	6.6	-3.7	311.1	312.4	0.4	7.5	5.1	33.
13.6	42.0	4266.7	611.0	-2.3	-32.6	299.0	8.3	7.3	-4.0	311.9	313.2	0.4	7.6	5.1	35.
13.9	43.0	4357.5	601.0	-2.8	-31.7	292.2	8.6	7.7	-4.2	312.8	314.3	0.4	8.5	5.2	36.
14.3	44.0	4503.6	593.0	-3.2	-32.0	300.2	9.4	5.1	-4.7	313.5	314.9	0.4	8.6	5.2	39.
14.7	45.0	4624.5	584.0	-3.5	-32.2	304.2	10	8.3	-5.6	314.5	316.0	0.4	8.6	5.3	41.
15.0	46.0	4733.3	576.0	-4.3	-32.7	307.9	10	8.3	-6.5	314.8	316.3	0.4	8.7	5.3	43.
15.4	47.0	4857.2	567.0	-4.8	-32.0	311.0	11	8.5	-7.4	315.7	317.3	0.5	9.7	5.3	46.
15.7	48.0	4.60.8	559.0	-5.5	-25.5	311.4	11	7.6	-7.6	316.1	319.0	0.9	18.9	5.3	48.

0 BY SPEED MEANS ELEVATION ANGLE BETWEEN 6 AND 10 DEG
0 BY TEMP MEANS TEMPERATURE CR TIME HAVE BEEN INTERPOLATED
00 BY SPEED MEANS ELEVATION ANGLE LESS THAN 6 DEG

Figure 2. Example of contact data from the AVE IV experiment.

STATION NO. 208
CHARLESTON, SC

23 APRIL 1975

195 18.0 0

TIME MIN	CMTC	HEIGHT GM	PRES MB	TEMP DG C	DEW PT DG C	DIR CG	SPEED M/SEC	I M/SEC	COMP M/SEC	V M/SEC	POT T DG K	E POT T DG K	MH RTO GM/KG	PH PCT	RANGE KM	AZ DG
16.1	48.0	5081.7	551.0	-6.3	-20.9	310.4	11.7	0.9	-7.6	316.5	319.1	0.8	17.6	5.3	52.0	
16.4	50.0	5210.4	562.0	-6.9	-23.5	309.1	11.6	0.9	-7.3	317.0	320.8	1.1	25.1	5.4	54.0	
16.9	51.0	5340.9	537.0	-7.6	-25.0	308.7	11.4	0.9	-7.0	318.0	321.9	1.2	29.1	5.5	57.0	
17.2	52.0	5458.4	525.0	-8.6	-28.1	305.5	11.4	0.8	-7.2	318.2	322.9	1.2	32.6	5.6	59.0	
17.6	53.0	5577.2	517.0	-9.6	-19.2	311.0	11.5	0.7	-7.0	318.4	323.6	1.6	45.4	5.7	62.0	
18.0	54.0	5712.7	508.0	-10.7	-17.5	312.1	11.9	0.9	-8.0	318.8	324.6	1.9	56.9	5.8	64.0	
18.4	55.0	5834.6	500.0	-11.8	-19.3	311.0	12.2	0.2	-8.0	318.8	324.2	1.7	56.4	5.9	67.0	
18.8	56.0	5973.5	491.0	-12.6	-21.2	307.7	12.4	0.8	-7.6	319.4	324.1	1.4	56.4	6.0	70.0	
19.2	57.0	6083.0	484.0	-13.3	-21.5	303.0	12.6	10.6	-8.9	319.9	324.8	1.4	56.0	6.2	72.0	
19.6	58.0	6209.8	476.0	-14.0	-22.5	297.8	13.0	11.5	-8.0	320.5	324.8	1.3	48.5	6.4	74.0	
19.9	59.0	6322.2	469.0	-14.9	-22.5	294.0	13.3	12.2	-5.4	320.8	325.2	1.3	52.0	6.6	75.0	
20.4	60.0	6468.6	460.0	-15.6	-22.2	290.2	13.9	13.0	-4.8	321.4	326.0	1.4	56.0	6.9	77.0	
20.8	61.0	6594.2	453.0	-16.1	-21.5	285.5	14.4	13.6	-4.0	322.7	327.5	1.5	63.2	7.2	79.0	
21.2	62.0	6684.6	447.0	-16.7	-23.7	290.2	15.1	14.1	-4.1	323.0	327.2	1.3	54.4	7.5	80.0	
21.7	63.0	6820.1	439.0	-17.5	-24.9	292.1	16.0	14.6	-6.0	323.4	327.5	1.1	52.3	7.9	82.0	
22.0	64.0	6940.3	432.0	-18.6	-25.5	293.2	16.6	15.2	-6.5	323.7	327.4	1.1	54.2	8.2	83.0	
22.4	65.0	7061.9	425.0	-19.6	-26.2	294.6	17.0	15.6	-7.0	323.7	327.2	1.1	56.6	8.5	84.0	
22.9	66.0	7202.8	417.0	-20.6	-26.6	295.9	17.3	15.6	-7.5	324.4	327.9	1.0	58.6	9.0	86.0	
23.4	67.0	7327.8	410.0	-21.7	-27.2	296.4	17.4	15.6	-7.7	324.6	327.9	1.0	60.5	9.4	88.0	
23.7	68.0	7454.4	403.0	-22.9	-29.2	296.9	17.2	15.3	-7.8	324.6	327.5	0.8	60.0	9.7	88.0	
24.2	69.0	7582.7	396.0	-23.8	-29.3	297.1	18.4	14.6	-7.5	325.0	327.9	0.8	60.0	10.2	90.0	
24.6	70.0	7712.8	389.0	-24.6	-30.8	296.2	18.8	14.2	-8.9	325.6	328.2	0.7	55.9	10.5	91.0	
25.2	71.0	7852.9	380.0	-25.8	-32.8	293.8	19.5	14.2	-8.3	326.2	328.4	0.6	51.4	11.0	92.0	
25.6	72.0	8017.5	373.0	-26.5	-35.1	293.7	19.8	14.5	-8.4	327.1	328.7	0.5	38.2	11.3	93.0	
26.0	73.0	8154.1	366.0	-27.6	-36.4	295.2	19.3	14.8	-7.0	327.2	328.9	0.5	42.5	11.7	93.0	
26.5	74.0	8272.7	359.0	-28.8	-38.3	297.1	17.1	15.2	-8.2	327.2	328.9	0.5	48.2	12.1	94.0	
26.9	75.0	8412.9	353.0	-30.0	-39.3	297.6	17.7	15.7	-8.2	327.4	329.3	0.5	59.4	12.5	95.0	
27.4	76.0	8538.7	347.0	-31.2	-39.3	297.3	18.4	16.3	-8.4	327.4	329.4	0.5	67.1	13.0	96.0	
27.8	77.0	8678.9	340.0	-32.1	-37.6	296.5	18.8	16.8	-8.4	328.1	329.7	0.4	58.0	13.4	97.0	
28.2	78.0	8804.5	334.0	-32.8	-39.7	295.5	19.1	17.2	-8.2	328.8	330.1	0.4	49.5	13.9	97.0	
28.6	79.0	8931.8	328.0	-34.0	-40.8	294.8	19.3	17.5	-8.1	328.5	330.1	0.3	49.5	14.3	98.0	
29.0	80.0	9060.9	322.0	-34.9	-40.4	294.7	19.4	17.6	-8.1	329.4	330.6	0.3	57.3	14.8	98.0	
29.6	81.0	9218.0	315.0	-35.9	-40.0	295.8	19.8	17.9	-8.6	330.1	331.5	0.4	65.1	15.4	99.0	
29.9	82.0	9347.3	309.0	-37.2	-41.2	296.0	20.0	18.0	-8.6	330.1	331.3	0.3	65.9	15.8	99.0	
30.4	83.0	9482.6	303.0	-38.2	-42.4	296.4	20.2	18.1	-9.0	330.6	331.7	0.3	63.8	16.4	100.0	
30.8	84.0	9596.8	298.0	-39.4	-43.7	296.8	20.3	18.1	-9.1	330.4	331.4	0.3	62.8	16.8	101.0	
31.2	85.0	9735.7	292.0	-40.6	-45.9	297.1	20.3	18.1	-9.3	330.7	331.9	0.3	99.9	17.3	101.0	
31.6	86.0	9900.7	285.0	-41.6	-49.9	296.9	21.0	18.7	-9.5	331.6	332.6	0.3	99.9	18.0	102.0	
32.3	87.0	10020.4	280.0	-42.0	-49.9	296.0	22.1	19.9	-9.7	331.3	333.3	0.3	99.9	18.6	103.0	
32.7	88.0	10166.1	274.0	-44.0	-49.9	295.3	23.1	20.9	-9.8	331.9	333.9	0.3	99.9	19.1	103.0	
33.2	89.0	10285.3	269.0	-45.4	-49.9	295.1	23.6	21.4	-10.2	331.6	334.6	0.3	99.9	19.5	103.0	
33.6	90.0	10414.2	264.0	-46.5	-49.9	295.9	23.4	21.4	-10.2	331.7	334.6	0.3	99.9	19.5	103.0	
34.1	91.0	10540.8	259.0	-47.8	-49.9	297.8	23.2	20.5	-10.8	331.6	334.6	0.3	99.9	19.5	104.0	
34.6	92.0	10695.0	253.0	-49.2	-49.9	299.2	24.1	21.0	-11.6	331.8	334.6	0.3	99.9	21.0	104.0	
35.1	93.0	10825.5	248.0	-50.5	-49.9	300.0	24.1	22.6	-13.6	331.7	334.6	0.3	99.9	22.4	105.0	

0 BY SPEED MEANS ELEVATION ANGLE RETRIEVE 6 AND 10 DEG
 0 BY TIME MEANS TEMPERATURE OR TIME HAVE BEEN INTERPOLATED
 00 BY SPEED MEANS ELEVATION ANGLE LESS THAN 6 DEG

Figure 2. (Continued).

STATION NO. 208
CHARLESTON, SC

23 APRIL 1975
23:5 GMT

TIME MIN	CNTCT	HEIGHT CFM	PRES MR	TEMP DG C	DEW PT DG C	DIR DG	SPEED M/SEC	U COMP M/SEC	V COMP M/SEC	POT T DG K	E POT T DG K	MK RTO GM/KG	RH PCT	RANGE KM	AZ DG
35.6	94.0	10588.0	243.0	-51.8	99.9	300.9	27.8	23.8	-14.2	331.8	999.9	99.8	999.9	23.2	105.
35.9	95.0	11092.4	238.0	-53.0	99.9	301.5	28.0	23.9	-14.7	331.9	999.9	99.9	999.9	23.6	106.
36.5	96.0	11395.5	235.0	-54.6	99.9	302.4	27.0	22.8	-14.6	331.9	999.9	99.9	999.9	24.7	106.
37.0	97.0	11395.5	227.0	-55.9	99.9	303.4	26.0	21.7	-14.3	332.0	999.9	99.9	999.9	25.5	107.
37.6	98.0	11508.3	223.0	-57.2	99.9	304.5	26.1	21.5	-14.8	331.6	999.9	99.9	999.9	26.4	107.
38.0	99.0	11651.3	218.0	-58.4	99.9	305.1	26.7	21.8	-15.3	332.0	999.9	99.9	999.9	27.0	108.
38.4	100.0	11756.7	213.0	-60.0	99.9	305.9	27.2	22.0	-15.9	331.7	999.9	99.9	999.9	27.6	108.
38.9	101.0	11944.6	208.0	-61.3	99.9	307.8	27.6	21.6	-16.9	332.0	999.9	99.9	999.9	28.4	109.
39.3	102.0	12095.3	203.0	-62.2	99.9	309.7	27.9	21.5	-17.8	332.5	999.9	99.9	999.9	29.0	109.
39.8	103.0	12218.1	199.0	-62.8	99.9	311.0	29.0	21.0	-19.0	333.9	999.9	99.9	999.9	29.8	110.
40.3	104.0	12333.1	195.0	-62.9	99.9	316.7	31.0	23.5	-20.2	335.3	999.9	99.9	999.9	30.6	110.
40.9	105.0	12502.7	190.0	-63.9	99.9	318.0	33.6	25.7	-21.5	338.5	999.9	99.9	999.9	31.7	111.
41.6	106.0	12633.0	186.0	-64.3	99.9	318.4	34.6	26.8	-22.0	337.9	999.9	99.9	999.9	33.1	111.
42.1	107.0	12765.9	182.0	-64.7	99.9	308.1	34.1	26.8	-21.1	329.4	999.9	99.9	999.9	34.1	112.
42.7	108.0	12901.7	178.0	-64.5	99.9	304.7	32.6	26.8	-18.5	341.9	999.9	99.9	999.9	35.3	113.
43.3	109.0	13041.0	174.0	-63.1	99.9	309.9	32.2	27.7	-16.5	346.3	999.9	99.9	999.9	36.4	113.
43.9	110.0	13194.4	170.0	-62.4	99.9	298.8	33.4	29.3	-16.1	349.9	999.9	99.9	999.9	37.5	113.
44.7	111.0	13268.8	165.0	-62.0	99.9	298.9	33.6	29.4	-16.4	353.5	999.9	99.9	999.9	39.2	114.
45.2	112.0	13350.5	161.0	-62.2	99.9	301.3	34.1	29.4	-17.7	355.7	999.9	99.9	999.9	40.2	114.
45.9	113.0	13576.1	157.0	-62.0	99.9	305.8	34.9	28.3	-20.4	358.6	999.9	99.9	999.9	41.6	114.
46.5	114.0	13795.7	154.0	-60.9	99.9	307.1	34.8	27.8	-21.0	362.4	999.9	99.9	999.9	42.9	115.
47.1	115.0	13959.4	150.0	-60.5	99.9	305.1	33.9	27.7	-19.9	365.8	999.9	99.9	999.9	44.0	115.
48.0	116.0	14127.4	146.0	-61.5	99.9	303.9	33.3	27.6	-18.6	367.0	999.9	99.9	999.9	45.8	115.
48.7	117.0	14300.5	142.0	-55.3	99.9	304.8	34.1	27.3	-20.4	373.7	999.9	99.9	999.9	47.3	115.
49.4	118.0	14434.2	139.0	-55.5	99.9	307.7	34.2	27.1	-20.9	375.7	999.9	99.9	999.9	48.5	116.
50.1	119.0	14614.8	135.0	-55.8	99.9	307.2	33.3	26.5	-20.1	378.2	999.9	99.9	999.9	50.2	116.
50.7	120.0	14757.0	132.0	-60.5	99.9	304.3	31.2	24.5	-19.3	379.4	999.9	99.9	999.9	51.2	116.
51.5	121.0	14948.6	128.0	-60.5	99.9	309.5	27.5	21.2	-17.5	382.8	999.9	99.9	999.9	52.6	117.
52.1	122.0	15095.9	125.0	-61.8	99.9	310.5	23.7	18.0	-18.4	383.1	999.9	99.9	999.9	53.5	117.
52.7	123.0	15285.8	122.0	-63.1	99.9	311.6	20.0	14.9	-23.3	383.3	999.9	99.9	999.9	54.3	117.
53.4	124.0	15398.5	119.0	-64.5	99.9	307.4	19.9	15.8	-22.1	383.6	999.9	99.9	999.9	54.9	117.
54.2	125.0	15606.8	115.0	-65.7	99.9	306.8	21.0	18.0	-20.7	385.2	999.9	99.9	999.9	56.1	118.
55.1	126.0	15766.9	112.0	-67.3	99.9	296.3	19.1	17.1	-18.5	385.0	999.9	99.9	999.9	57.0	118.
55.8	127.0	15930.1	109.0	-68.4	99.9	295.7	20.6	14.5	-18.9	386.0	999.9	99.9	999.9	57.9	117.
56.6	128.0	16097.2	106.0	-69.2	99.9	293.9	22.9	20.9	-9.3	387.5	999.9	99.9	999.9	58.9	117.
57.3	129.0	16288.3	103.0	-70.1	99.9	291.1	23.6	22.2	-8.6	389.0	999.9	99.9	999.9	59.9	117.
58.0	130.0	16483.6	100.0	-71.3	99.9	292.2	25.1	23.3	-9.5	390.1	999.9	99.9	999.9	60.9	117.
58.9	131.0	16684.3	96.0	-72.4	99.9	292.6	25.8	22.7	-12.4	392.3	999.9	99.9	999.9	62.2	117.
59.8	132.0	16871.3	93.0	-71.7	99.9	303.8	28.5	23.7	-15.9	397.3	999.9	99.9	999.9	63.9	117.
60.6	133.0	17065.3	90.0	-70.6	99.9	303.9	23.8	19.8	-13.3	403.4	999.9	99.9	999.9	65.0	117.
61.4	134.0	17265.6	87.0	-72.2	99.9	307.9	19.1	15.0	-11.7	408.6	999.9	99.9	999.9	66.1	118.
62.2	135.0	17402.9	85.0	-71.3	99.9	310.3	19.6	15.0	-12.7	408.6	999.9	99.9	999.9	66.9	118.
63.3	136.0	17689.2	81.0	-65.5	99.9	323.0	17.9	10.7	-14.3	418.0	999.9	99.9	999.9	68.2	118.
64.3	137.0	17914.5	78.0	-69.2	99.9	338.6	15.0	5.2	-14.0	423.0	999.9	99.9	999.9	68.2	118.
65.5	138.0	18148.2	75.0	-70.1	99.9	0.2	8.0	-1.1	-7.9	425.0	999.9	99.9	999.9	68.4	118.

9 BY SPEED MEANS ELEVATION ANGLE BETWEEN 6 AND 10 DEG
 * BY TEMP MEANS TEMPERATURE OR TIME HAVE BEEN INTERPOLATED
 ** BY SPEC MEANS ELEVATION ANGLE LESS THAN 6 DEG

Figure 2. (Continued).

ORIGINAL PAGE IS
OF POOR QUALITY

STATION NO. 208
CHARLESTON, SC

23 APRIL 1975
2315 GMT

155 16. 0

TIME MIN	CNTCT	HEIGHT GFM	PRES MB	TEMP DG C	DEW PT DG C	DIR DG	SPEED M/SEC	U COMP M/SEC	V COMP M/SEC	POT T DG K	E POT T DG K	MX RTO GM/KG	RH PCT	RANGE KM	AZ DG
05.6	135.0	18391.5	72.0	-65.2	99.9	313.6	11.1	8.0	-7.6	432.8	999.9	95.9	999.9	69.9	119.
6.7	140.0	18646.9	69.0	-67.3	99.9	314.6	9.1	6.5	-8.4	442.2	999.9	95.9	999.9	70.6	119.
68.9	141.0	18515.6	66.0	-66.3	99.9	329.1	12.1	6.2	-10.4	450.1	999.9	99.9	999.9	71.3	120.
70.2	142.0	19197.5	63.0	-66.3	99.9	357.0	7.4	0.4	-7.3	456.2	999.9	99.9	999.9	71.9	120.
71.6	143.0	19493.9	60.0	-65.3	99.9	334.2	2.9	1.3	-2.6	464.8	999.9	99.9	999.9	72.0	120.
73.0	144.0	19807.0	57.0	-64.3	99.9	324.0	5.6	3.3	-4.5	473.9	999.9	98.9	999.9	72.1	120.
74.5	145.0	20139.3	54.0	-62.4	99.9	2.1	6.0	-0.2	-6.0	485.7	999.9	99.9	999.9	72.8	121.
76.0	146.0	20491.5	51.0	-63.1	99.9	179.9	3.0	0.0	-3.0	491.9	999.9	99.9	999.9	72.6	121.
77.5	147.0	20864.8	48.0	-62.8	99.9	300.7	10.4	9.0	-5.3	501.4	999.9	99.9	999.9	72.9	121.
79.2	148.0	21263.9	45.0	-61.3	99.9	256.6	3.9	3.5	-1.7	514.4	999.9	98.9	999.9	74.1	121.
80.9	149.0	21546.8	43.0	-60.2	99.9	324.9	4.6	2.6	-3.7	523.8	999.9	98.9	999.9	74.4	121.
82.8	150.0	22000.9	40.0	-57.4	99.9	323.9	12.0	7.1	-9.7	541.7	999.9	98.9	999.9	75.4	121.
84.6	151.0	22494.9	37.0	-56.2	99.9	324.9	8.1	4.6	-6.6	556.9	999.9	98.9	999.9	76.0	121.
86.6	152.0	23033.8	34.0	-54.9	99.9	276.7	0.7	0.7	-0.1	574.0	999.9	98.9	999.9	76.8	122.
88.6	153.0	23624.7	31.0	-54.6	99.9	248.0	3.8	3.5	1.4	590.3	999.9	98.9	999.9	77.2	121.
90.8	154.0	24021.5	29.0	-54.8	99.9	320.9	2.3	1.5	-1.8	601.2	999.9	98.9	999.9	77.3	121.
93.2	155.0	24750.6	26.0	-54.4	99.9	316.7	9.2	6.3	-6.7	621.2	999.9	98.9	999.9	78.1	121.
95.8	156.0	25540.3	23.0	-52.1	99.9	327.7	9.3	5.0	-7.9	650.3	999.9	98.9	999.9	78.3	122.
98.8	157.0	26449.7	20.0	-49.9	99.9	321.9	0.7	0.4	-0.5	683.4	999.9	98.9	999.9	80.1	122.
102.1	158.0	27137.5	18.0	-50.7	99.9	999.9	99.9	99.9	99.9	701.9	999.9	99.9	999.9	99.9	99.9

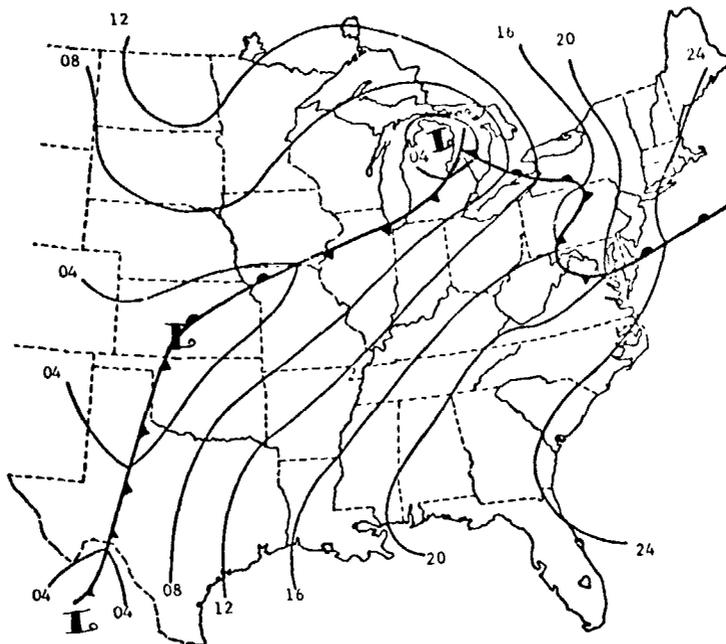
Figure 2. (Concluded).

TABLE 4. EXPLANATION OF COLUMN HEADINGS OF TABULATED SOUNDING DATA FOR THE AVSSE II EXPERIMENT

TIME (MIN)	Time after balloon release.
CNTCT	Contact number.
HEIGHT (GPM)	Height of corresponding pressure surface in geopotential meters.
PRES (MB)	Pressure in millibars.
TEMP (DG C)	Ambient temperature in degrees Celsius. Note: An asterisk indicates that time from release and/or temperature were linearly interpolated.
DEW PT (DG C)	Dew point temperature in degrees Celsius.
DIR (DG)	Wind direction measured clockwise from true north and is the direction from which the wind is blowing.
SPEED (M/SEC)	Scalar wind speed in meters per second. Note: An asterisk indicates that wind quantities are based on an elevation angle that is between 10° and 6°. A double asterisk indicates that the elevation angle is less than 6°.
U COMP (M/SEC)	The E-W wind component, positive toward the east and negative toward the west.
V COMP (M/SEC)	The N-S wind component, positive toward the north and negative toward the south.
POT T (DG K)	Potential temperature in degrees Kelvin.
E POT T (DG K)	Equivalent potential temperature in degrees Kelvin.
MX RTO (GM/KG)	Mixing ratio in grams per kilogram.
RH (PCT)	Relative humidity in percent.
RANGE (KM)	Distance balloon is from release point along a radius vector.
AZ (DG)	Direction toward balloon measured clockwise from true north.

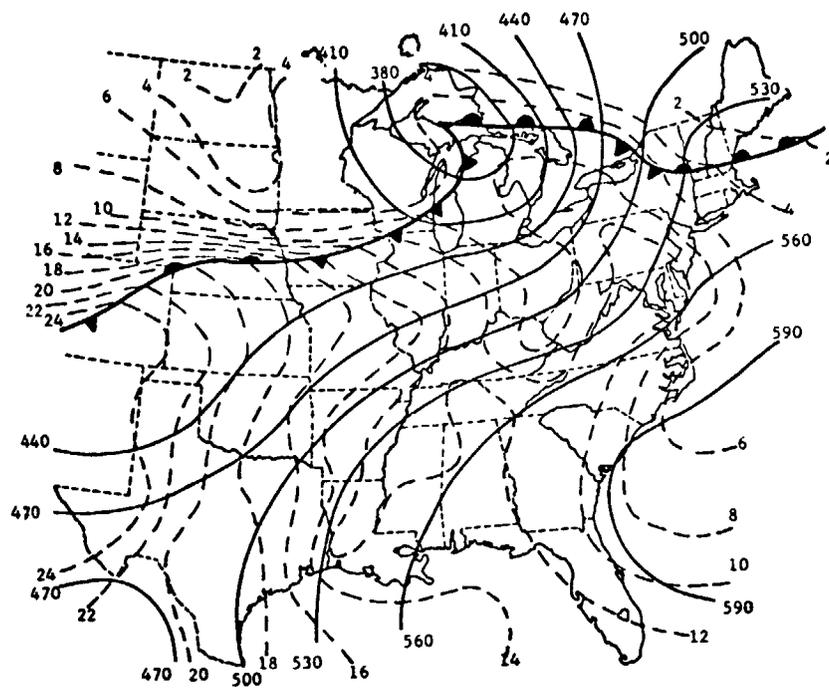
TABLE 5. LIST OF MISSING SOUNDINGS

Station	Date/GMT	Reason for Omission
562 North Platte, Nebraska	25/0600	Sounding not taken.
486 Fort Totten, New York	25/0600	Pen out of ink, no visible trace.
11001 Marshall Space Flight Center, Alabama	24/0000	Sounding not taken.
402 Wallops Island, Virginia	24/0000 24/0600 24/1200 25/0000 25/1200	Wind data only missing. Thermodynamic data were computed normally.
22002 Fort Sill, Oklahoma	24/0000 24/1500 24/2100 25/0600 25/1200	Soundings not taken.

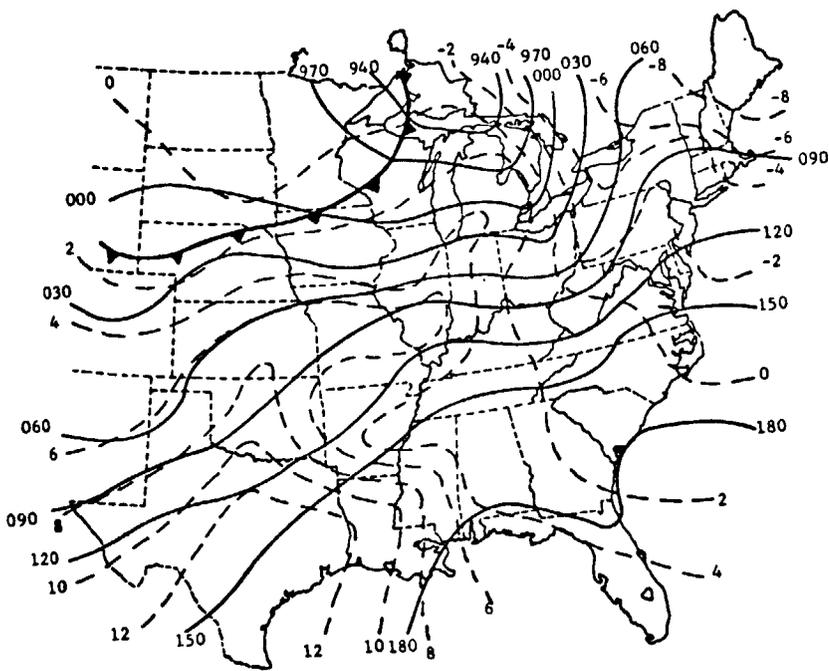


Surface

Figure 3. Synoptic charts for 0000 GMT, 24 April 1975.

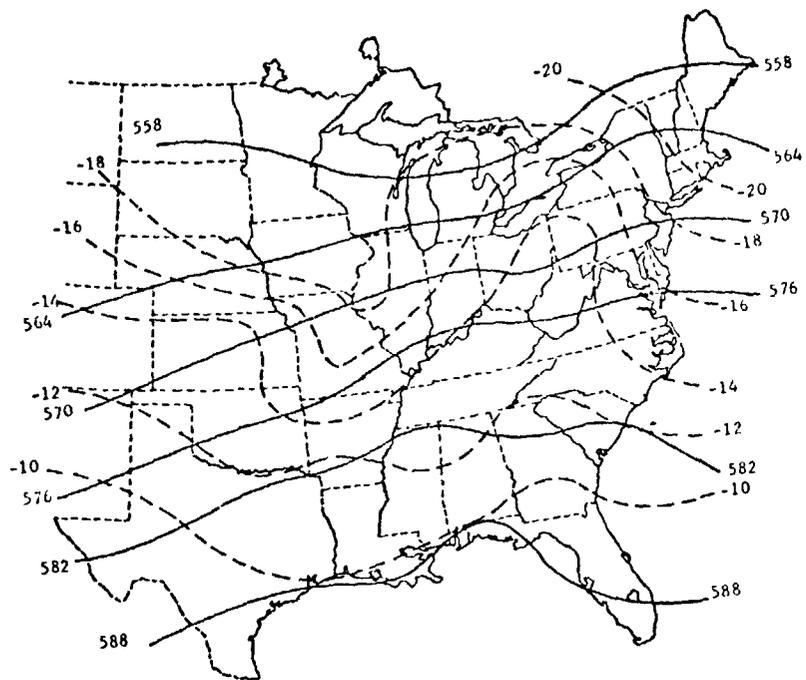


850 mb

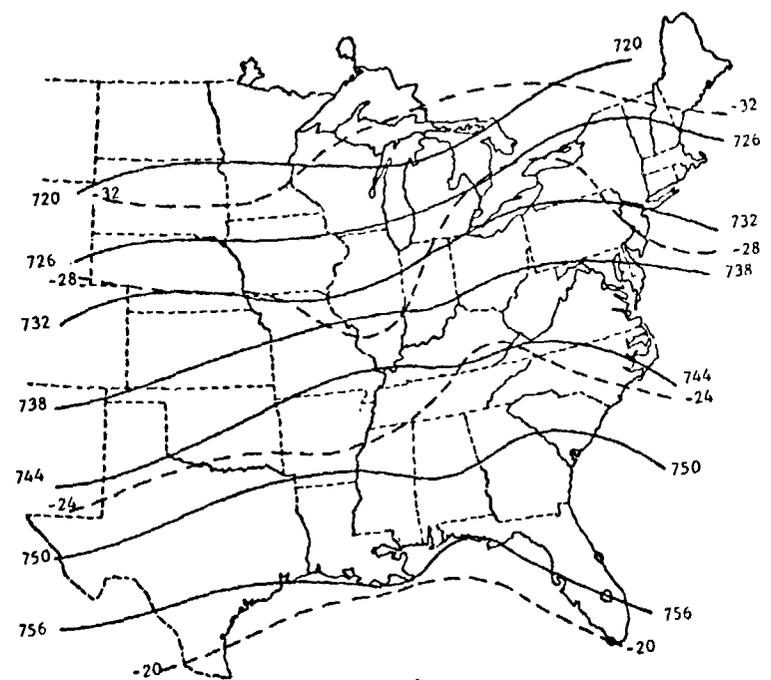


700 mb

Figure 3. (Continued).

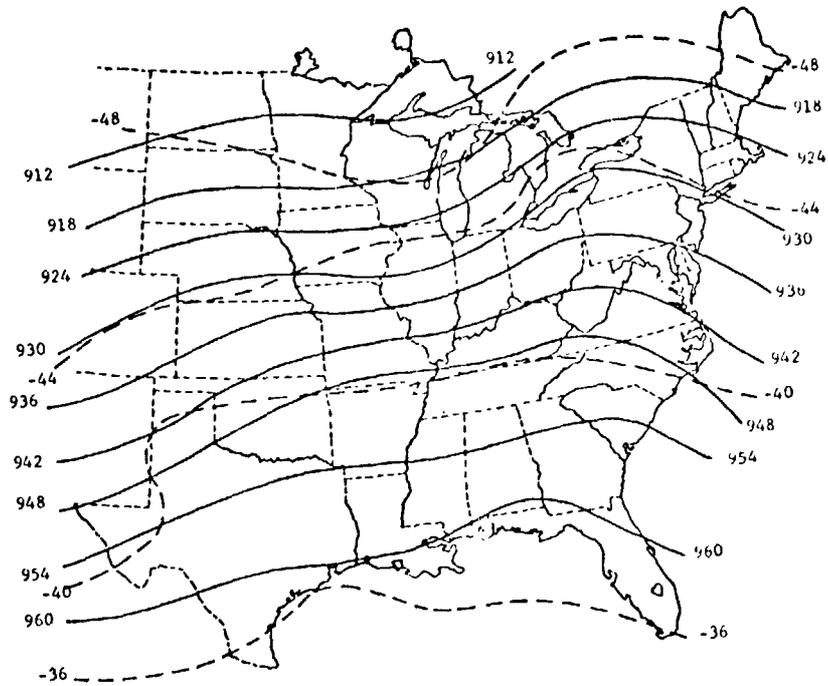


500 mb

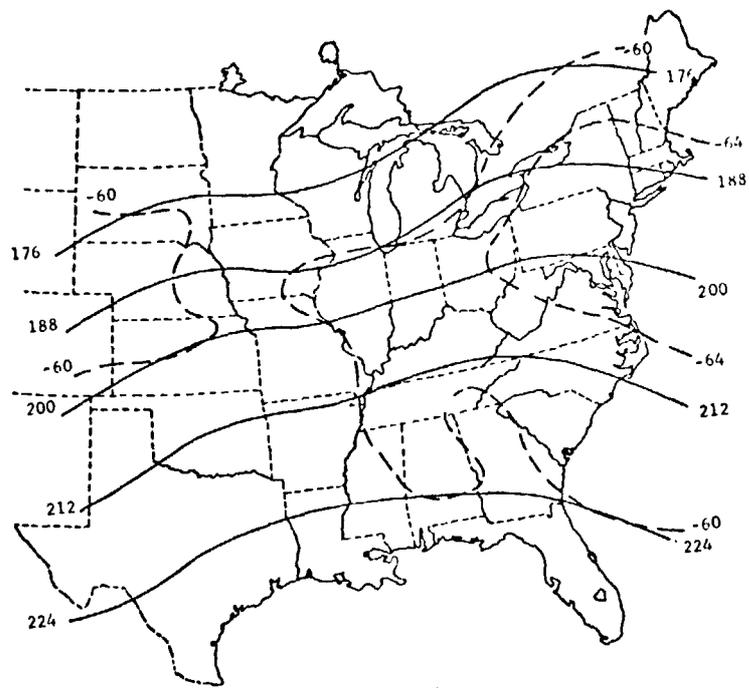


400 mb

Figure 3. (Continued).

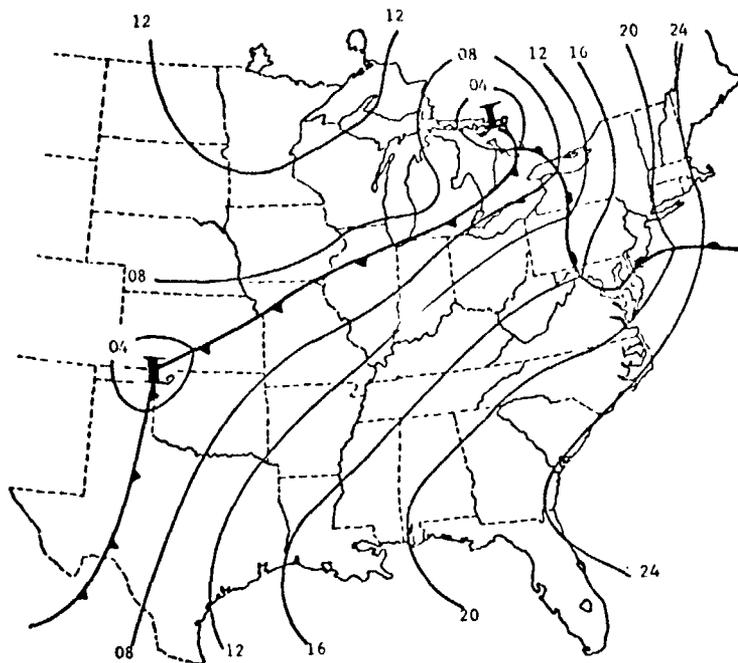


300 mb



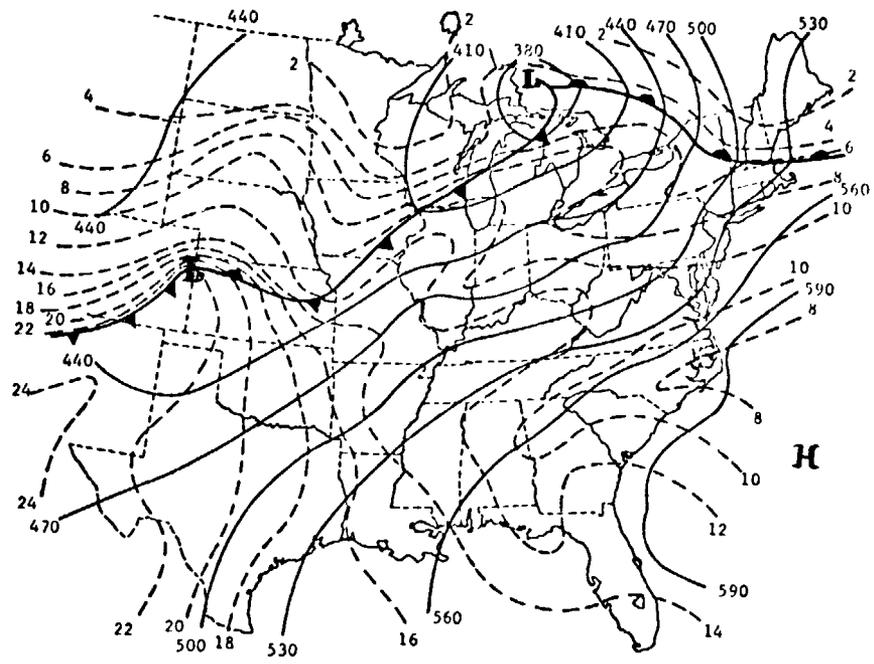
200 mb

Figure 3. (Concluded).

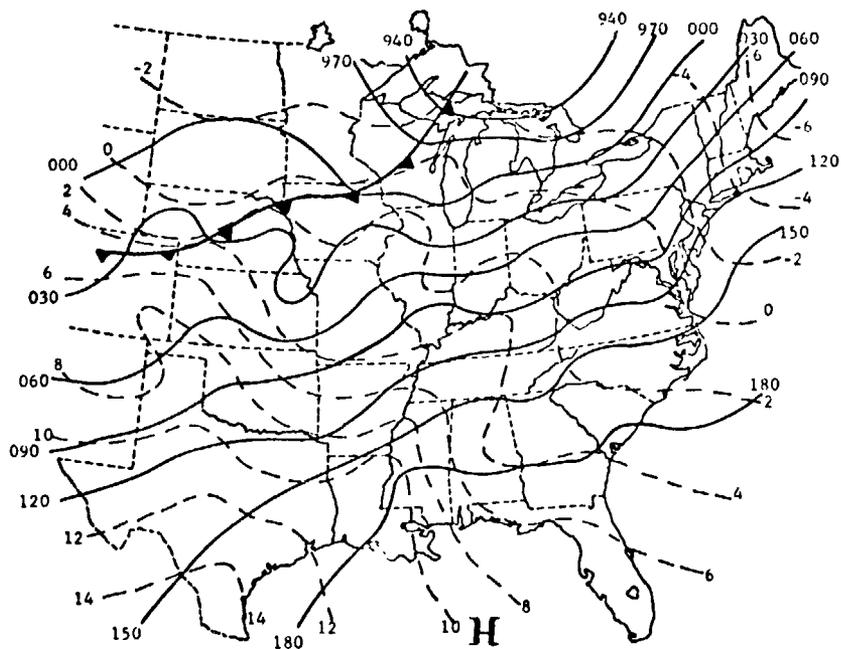


Surface

Figure 4. Synoptic charts for 0600 GMT, 24 April 1975.

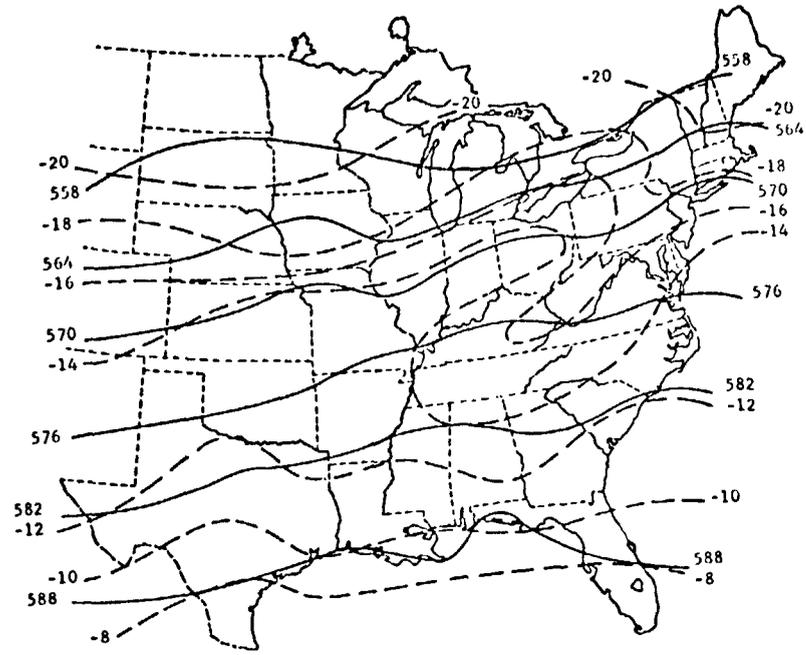


850 mb

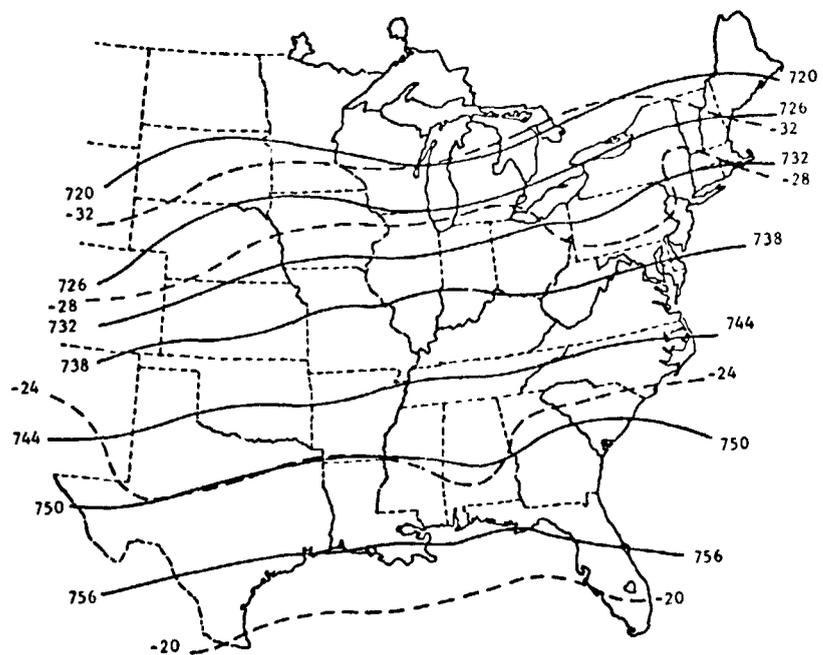


700 mb

Figure 4. (Continued).

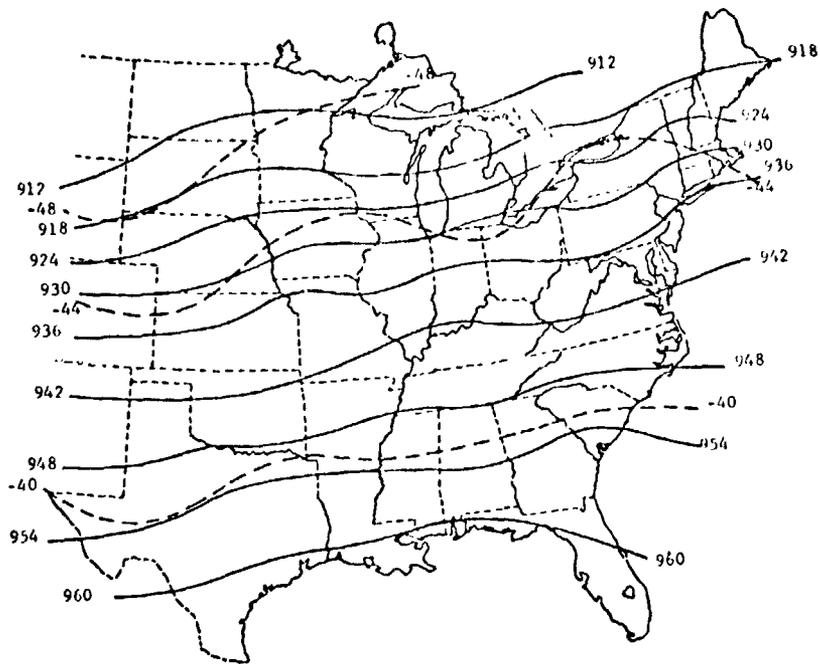


500 mb

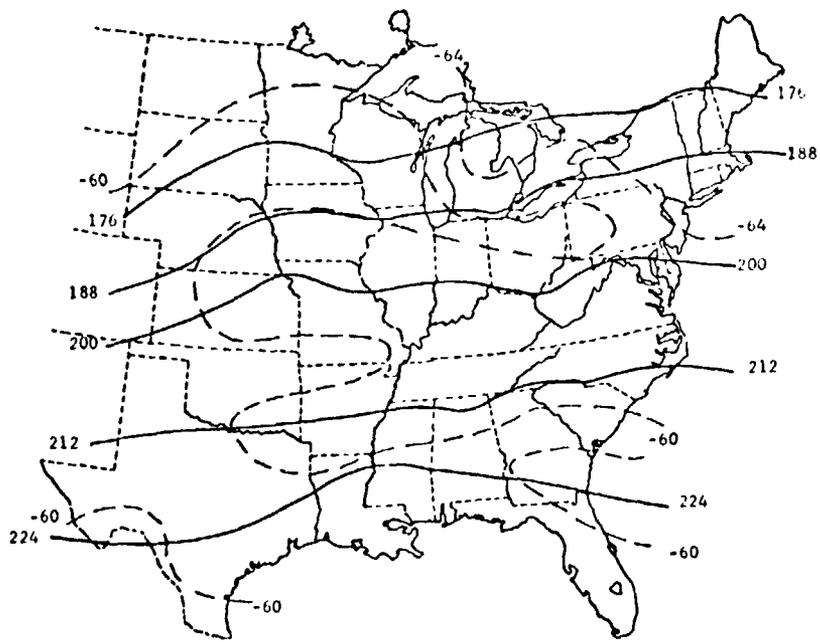


400 mb

Figure 4. (Continued).

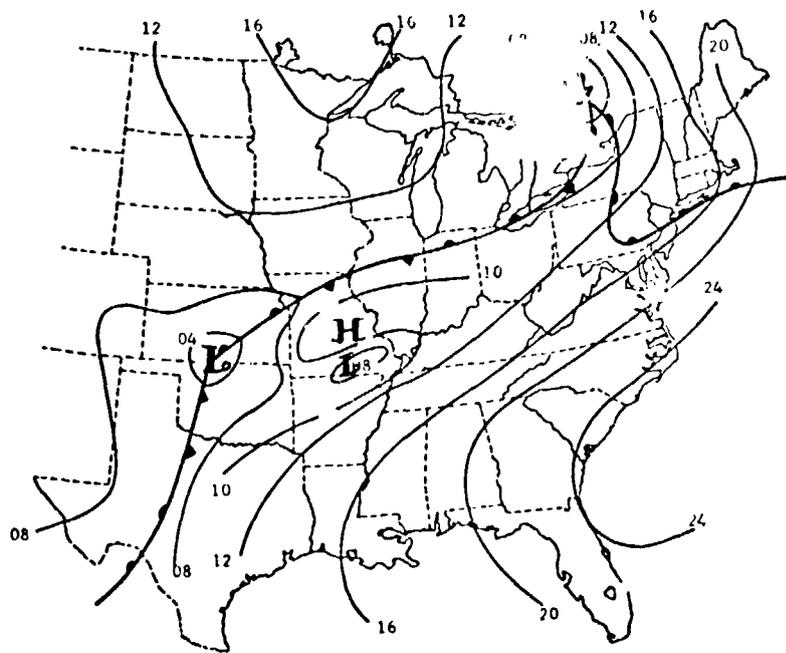


300 mb



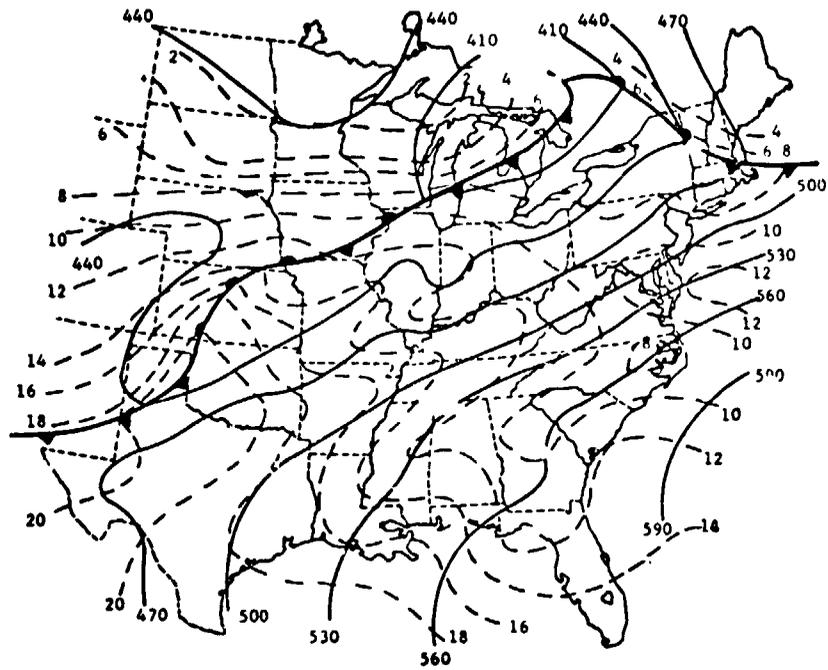
200 mb

Figure 4. (Concluded).

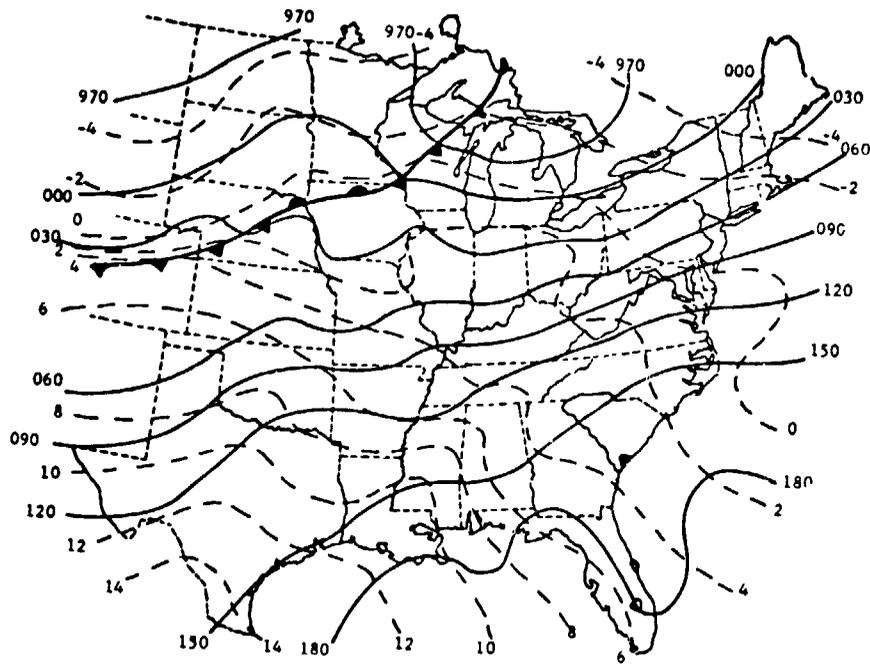


Surface

Figure 5. Synoptic charts for 1200 GMT, 24 April 1975.

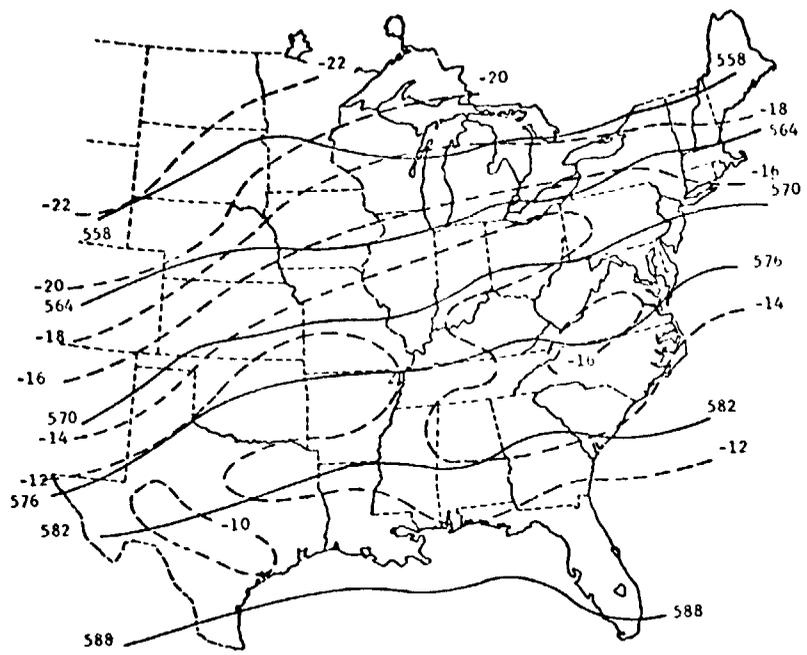


850 mb

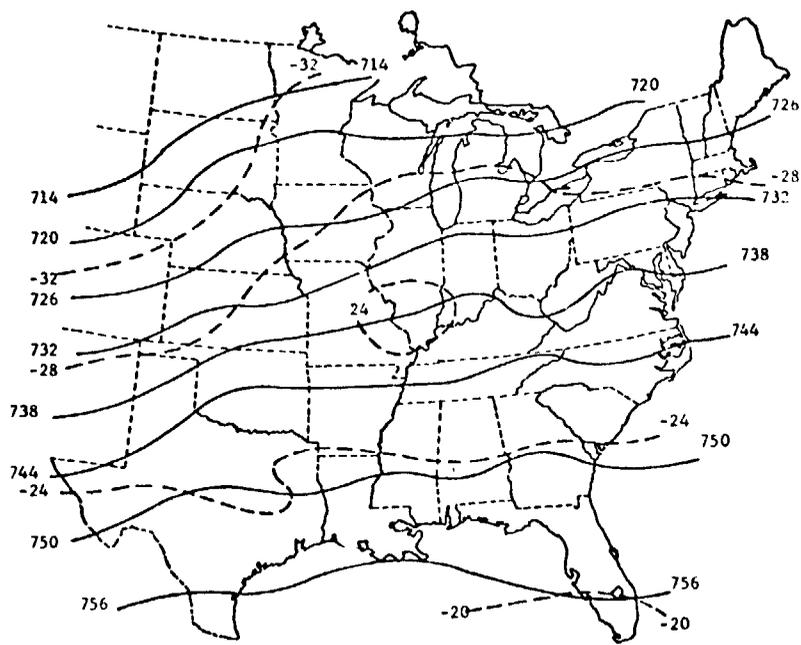


700 mb

Figure 5. (Continued).



500 mb



400 mb

Figure 5. (Continued).

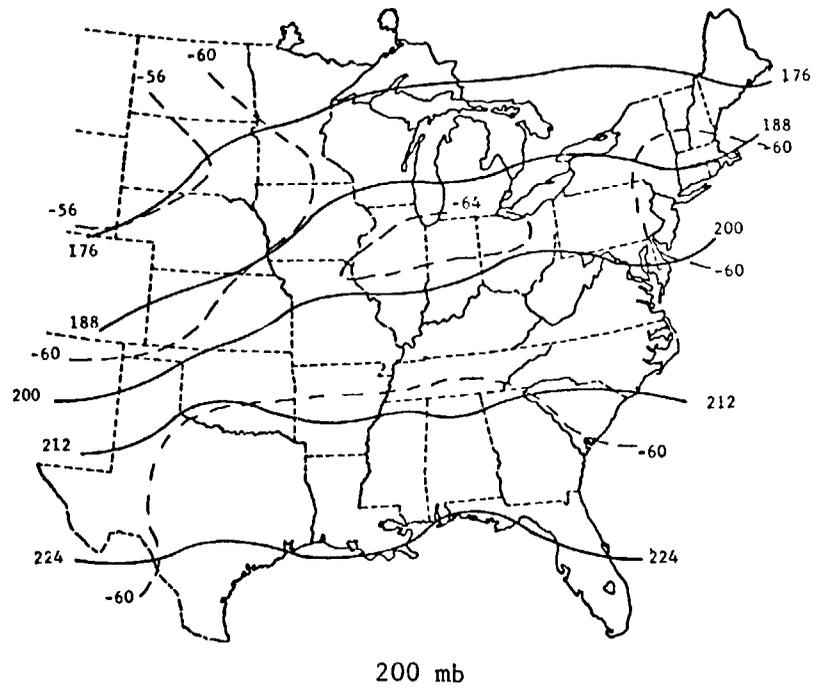
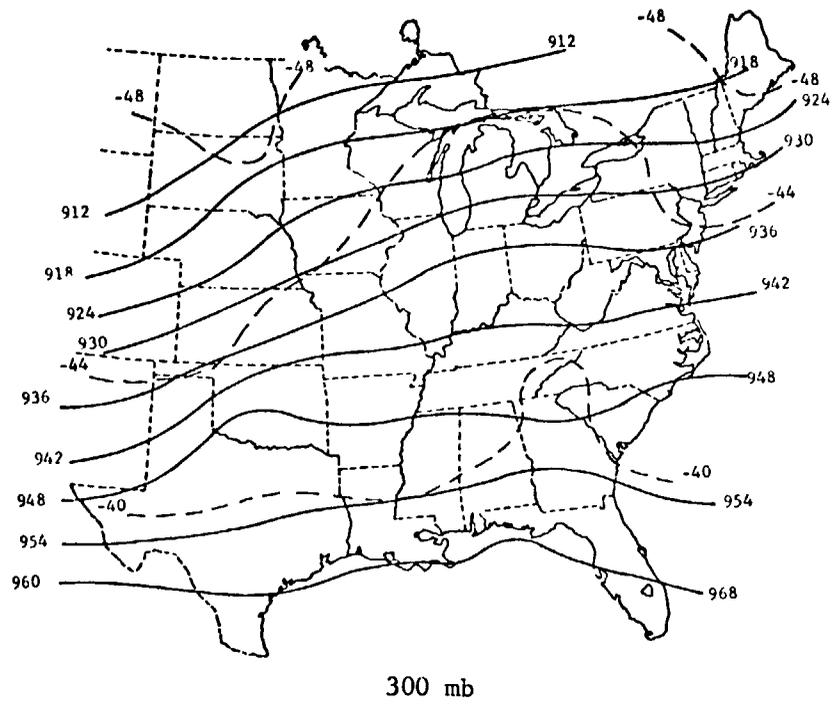
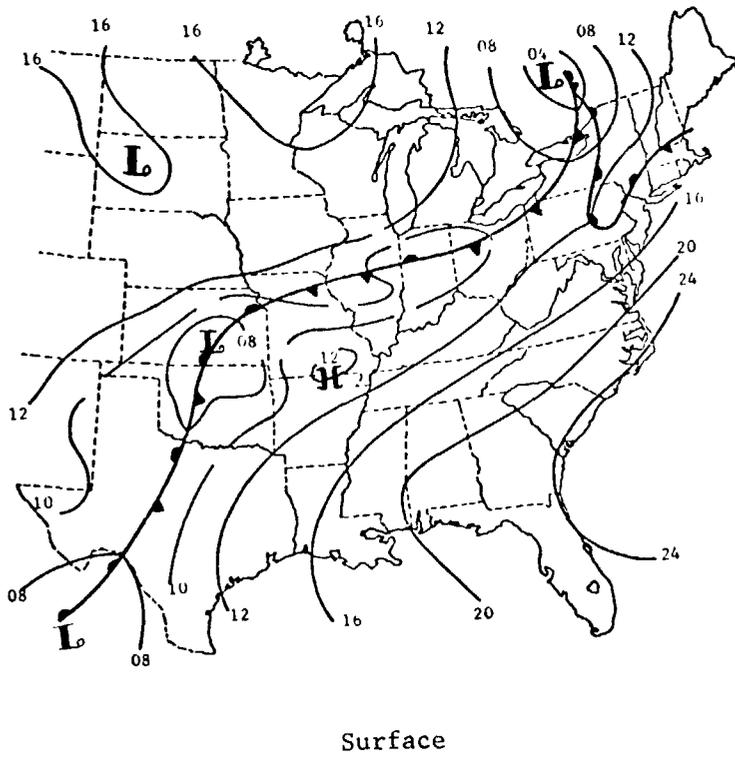
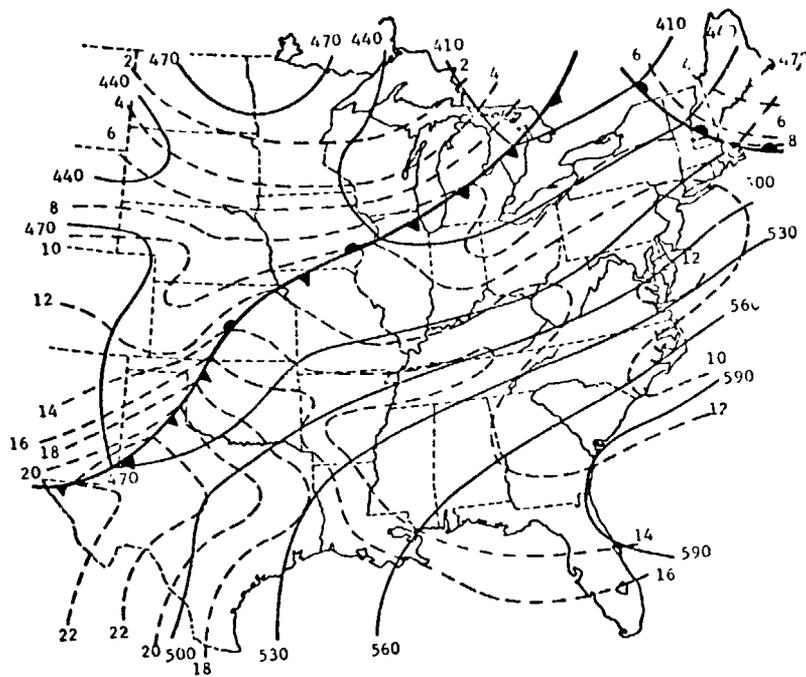


Figure 5. (Concluded).

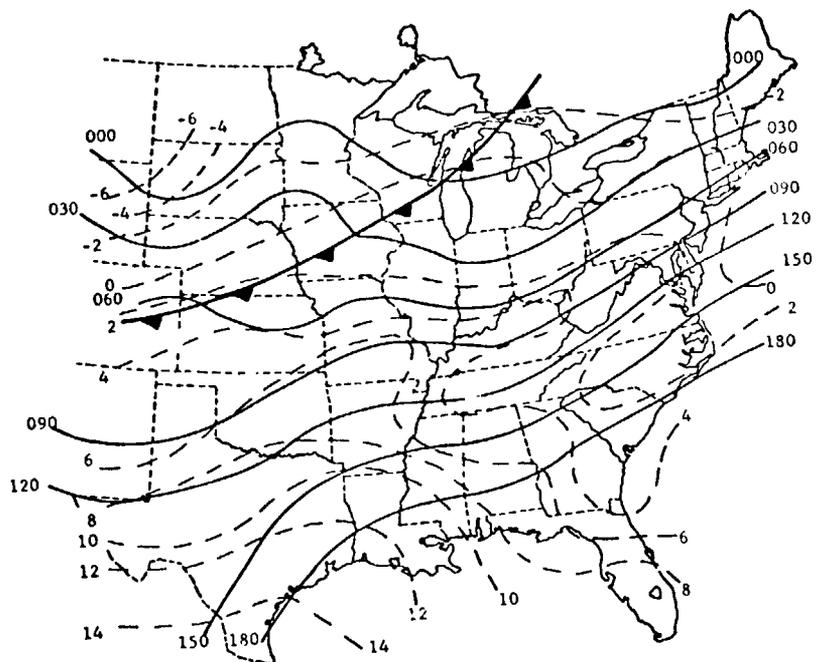


Surface

Figure 6. Synoptic charts for 1500 GMT, 24 April 1975.

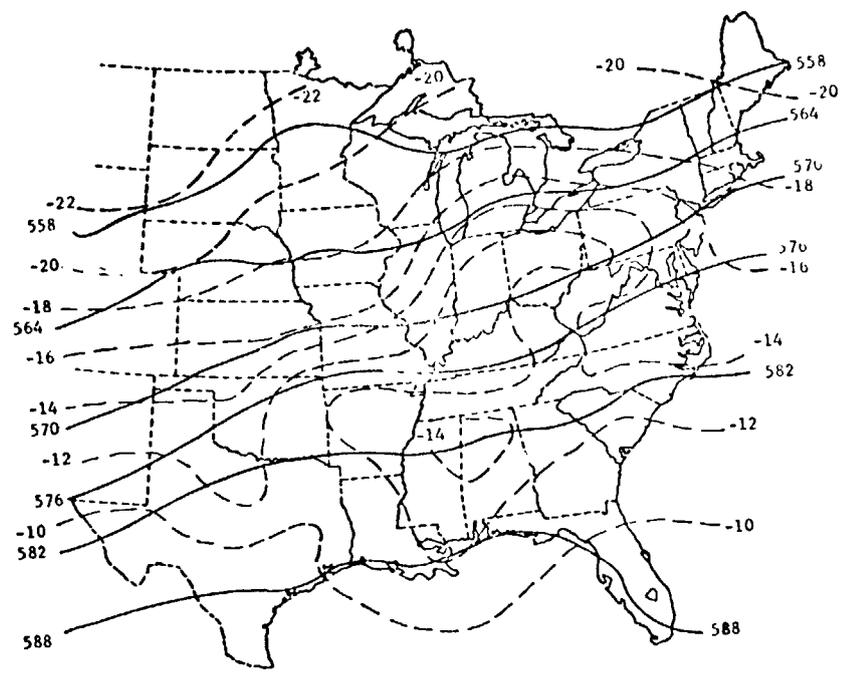


850 mb

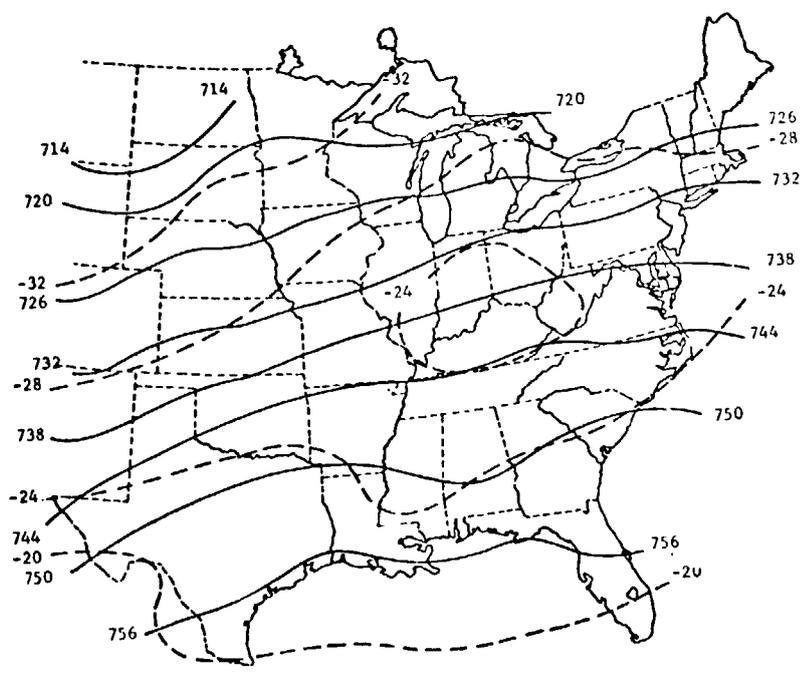


700 mb

Figure 6. (Continued).

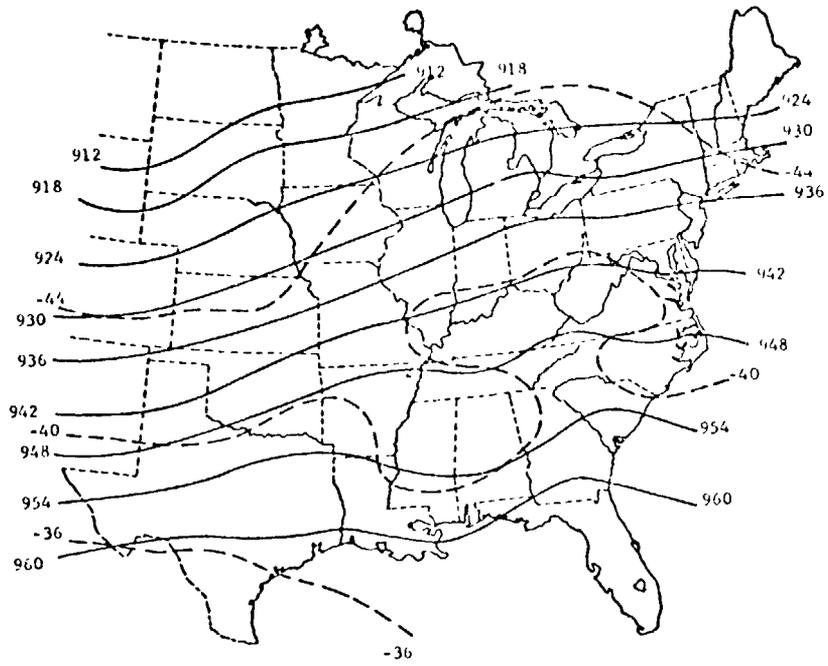


500 mb

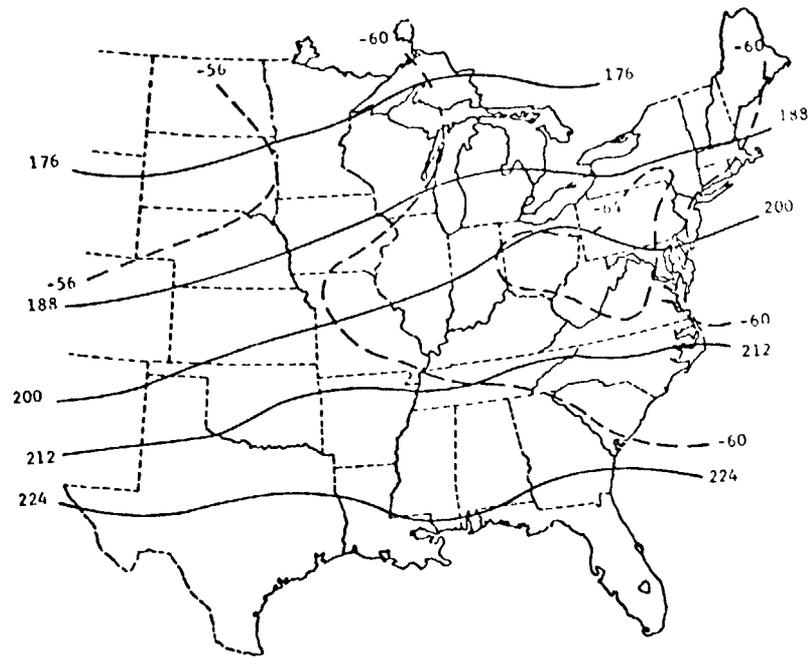


400 mb

Figure 6. (Continued).

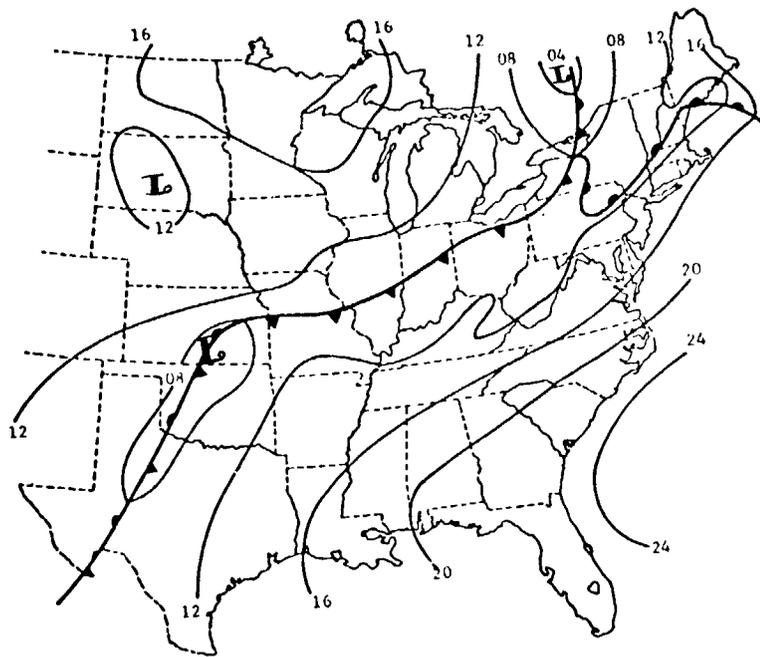


300 mb



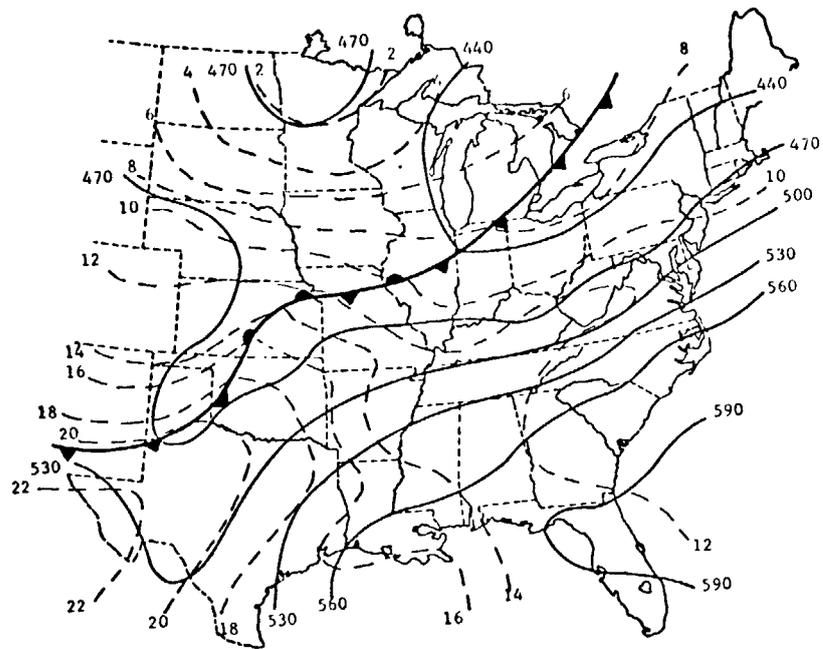
200 mb

Figure 6. (Concluded).

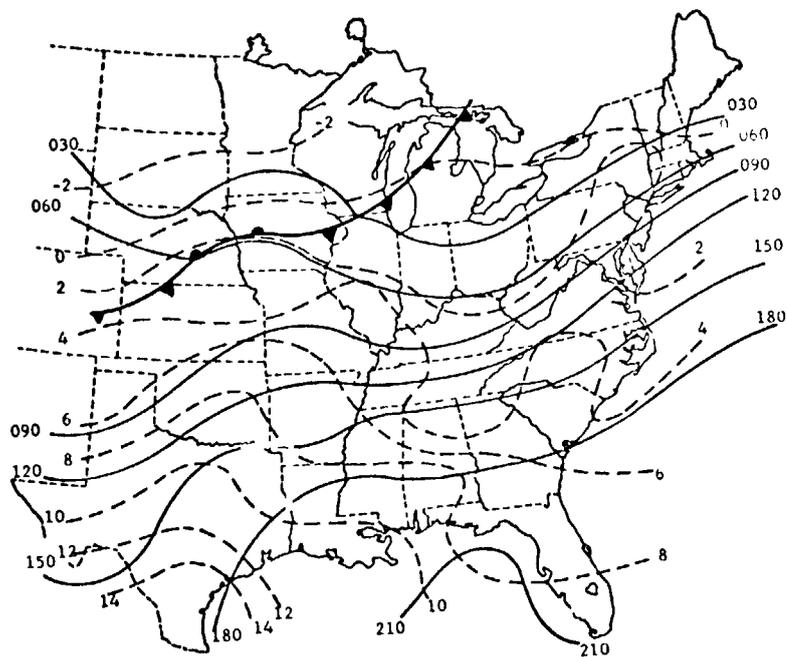


Surface

Figure 7. Synoptic charts for 1800 GMT, 24 April 1975.



850 mb



700 mb

Figure 7. (Continued).

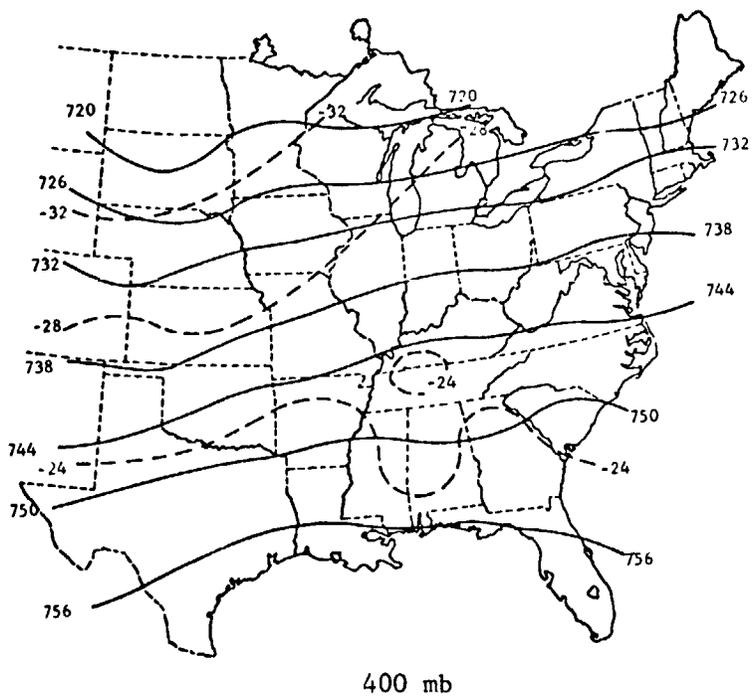
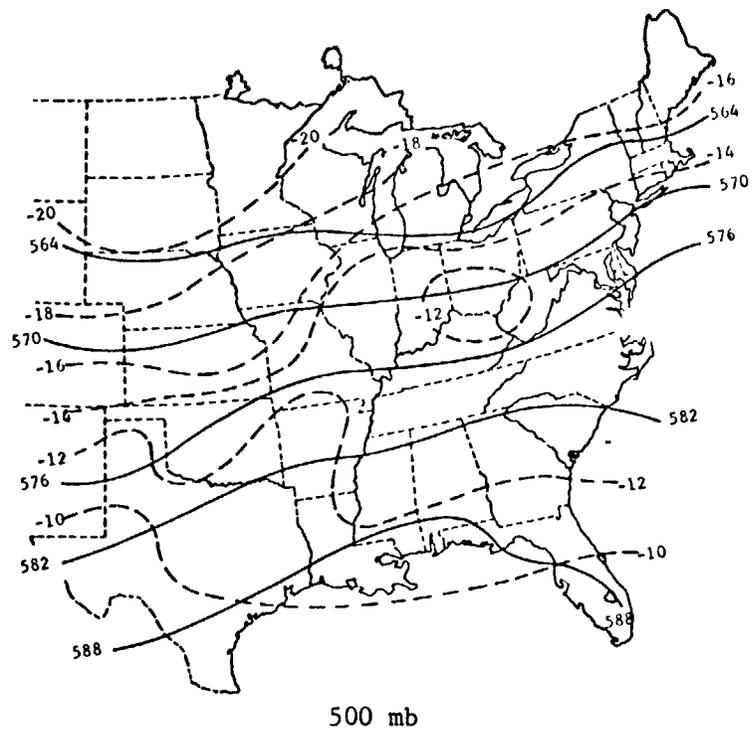
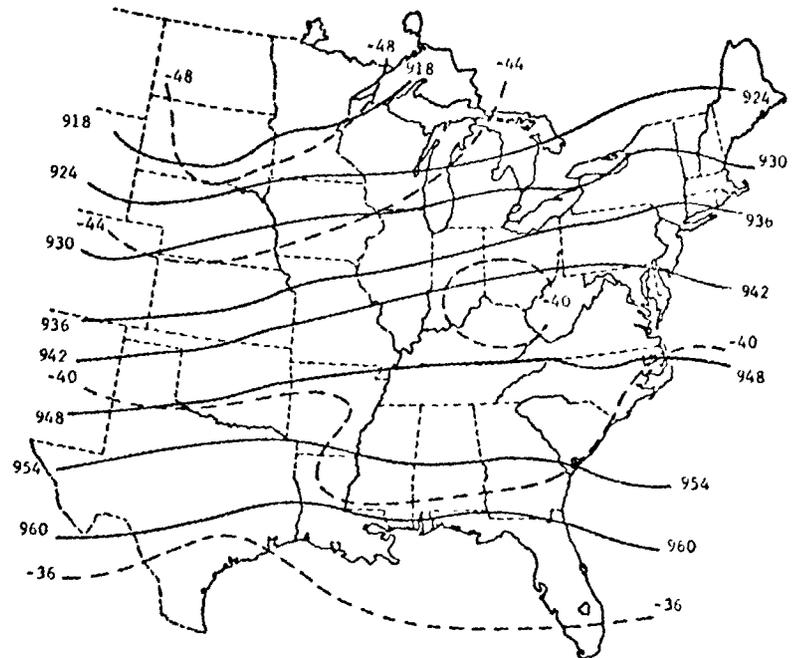
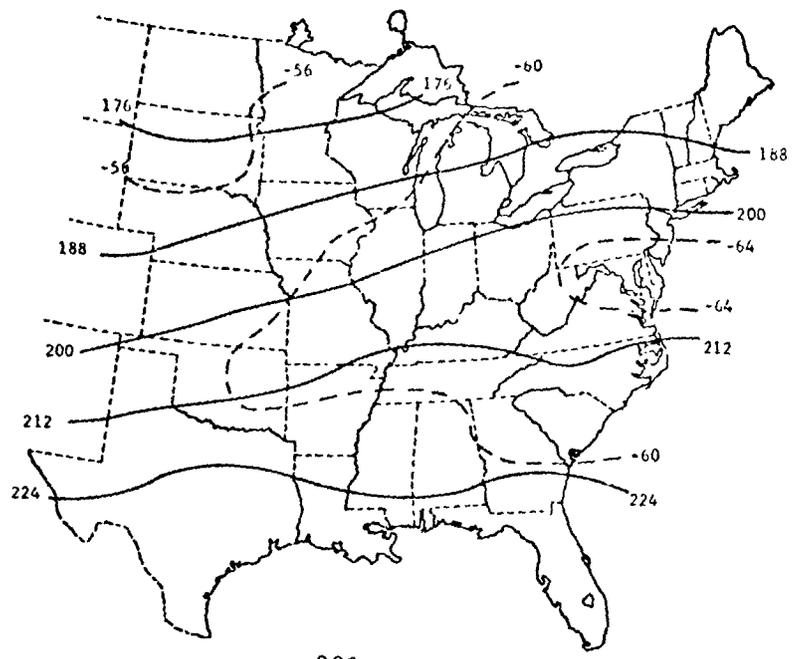


Figure 7. (Continued).

0
C
C

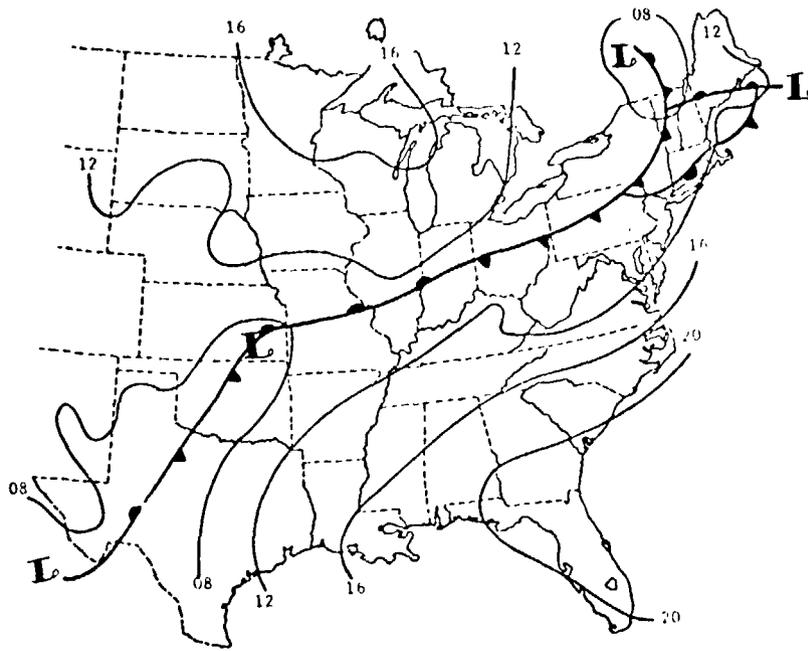


300 mb



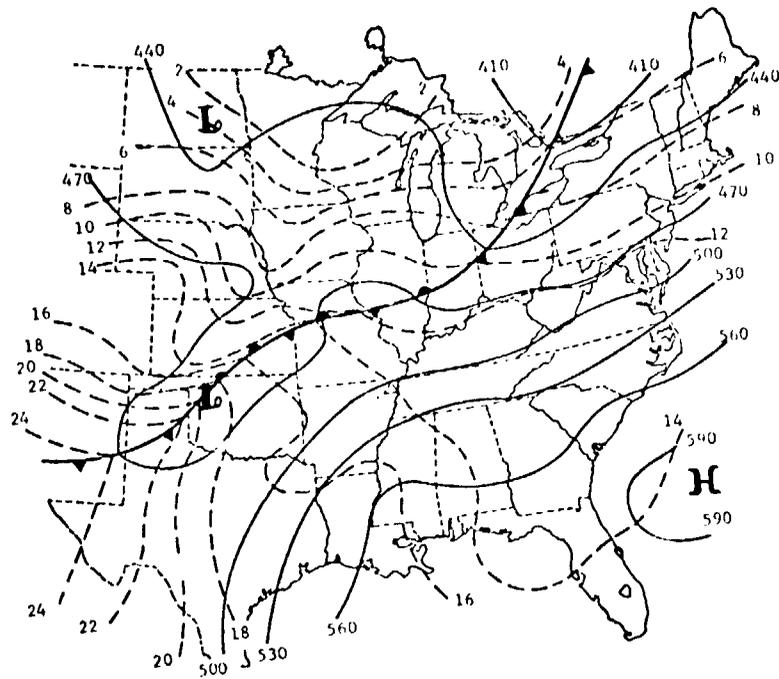
200 mb

Figure 7. (Concluded).

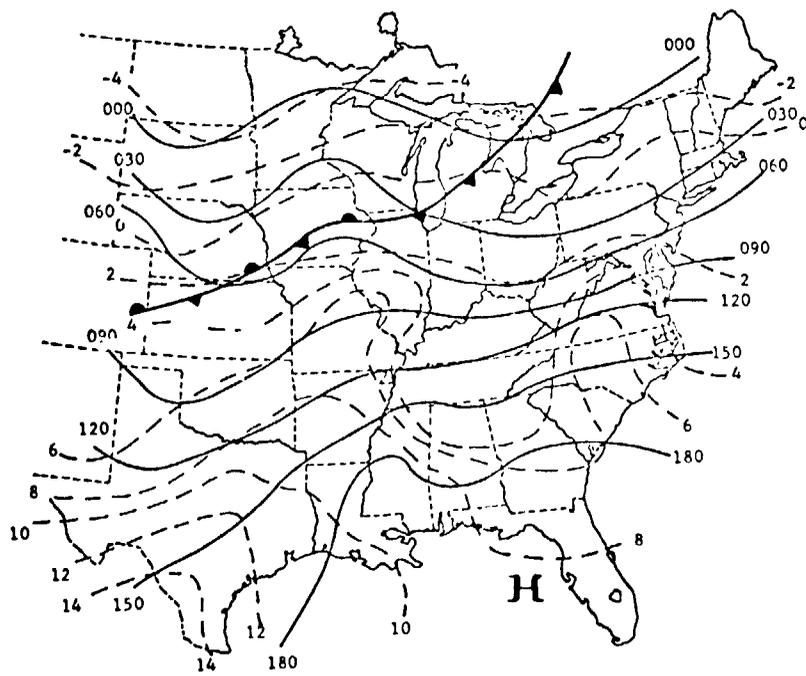


Surface

Figure 8. Synoptic charts for 2100 GMT, 24 April 1975.

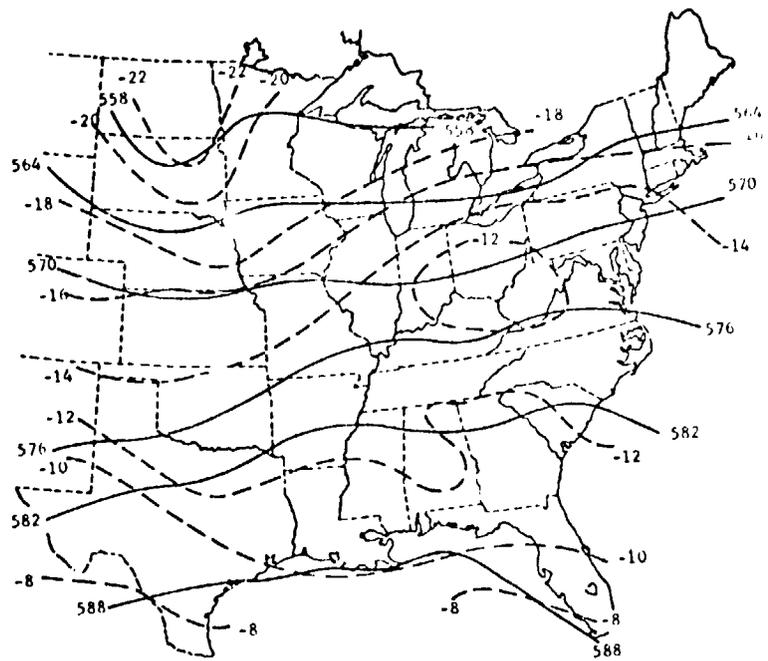


850 mb

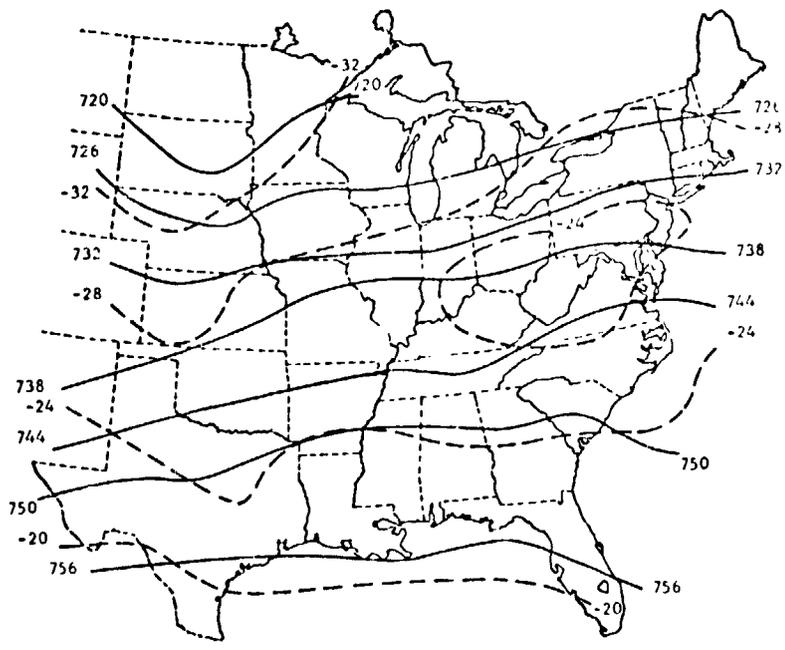


700 mb

Figure 8. (Continued).

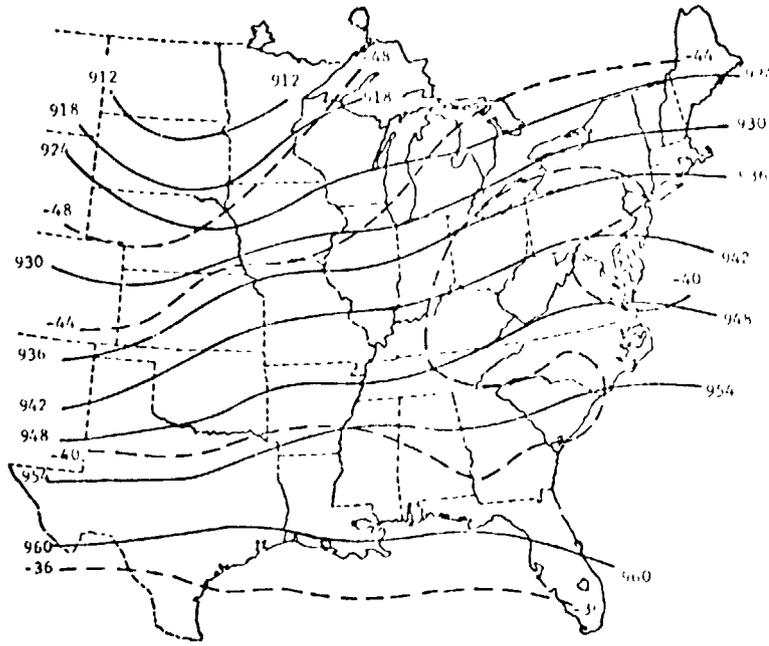


500 mb

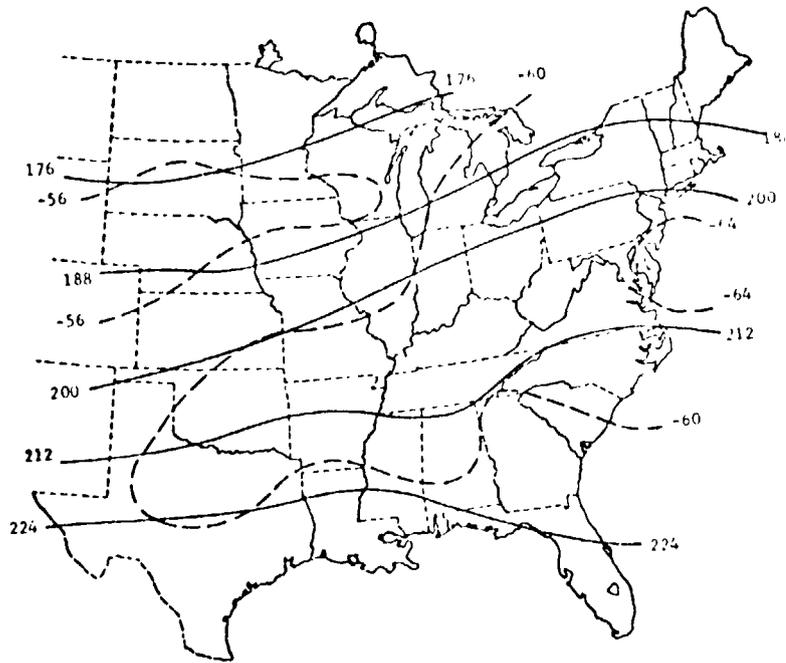


400 mb

Figure 8. (Continued)

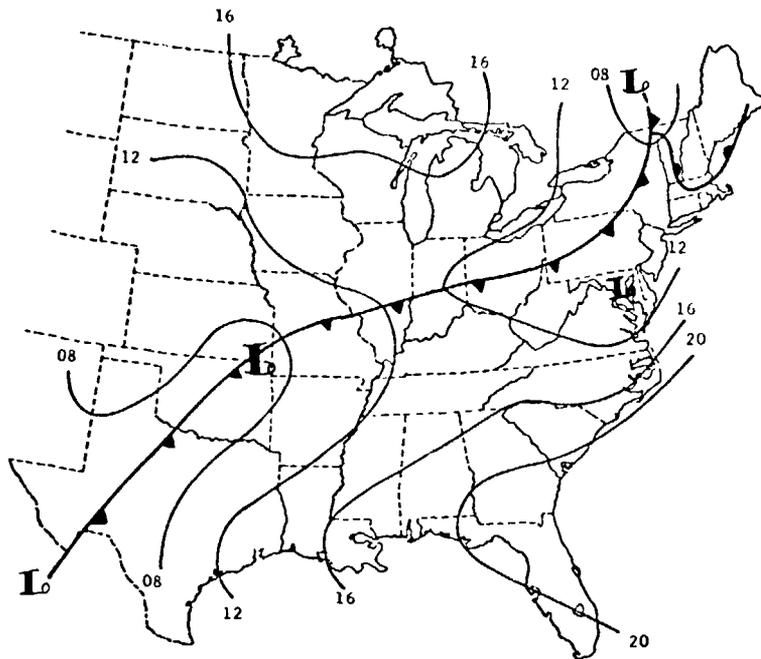


300 mb



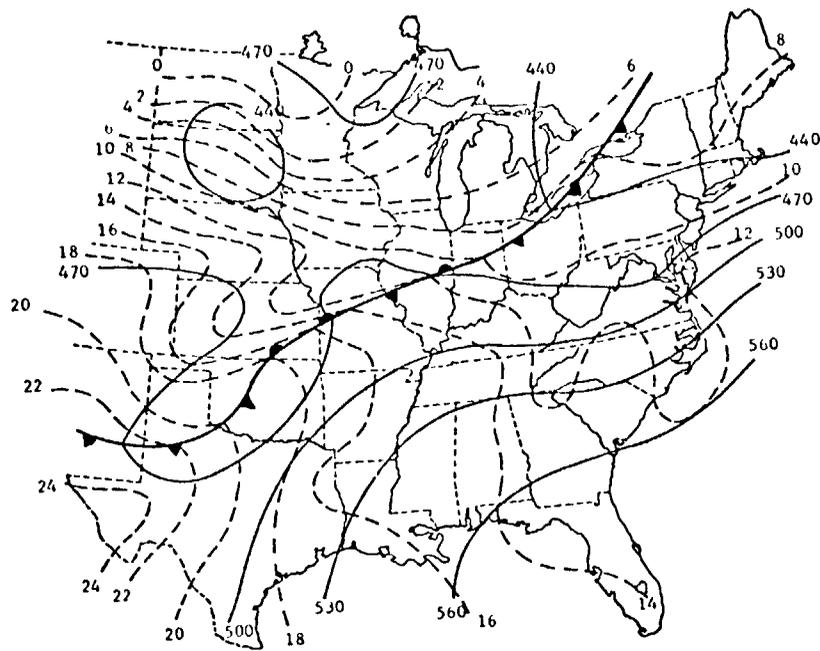
200 mb

Figure 8. (Concluded).

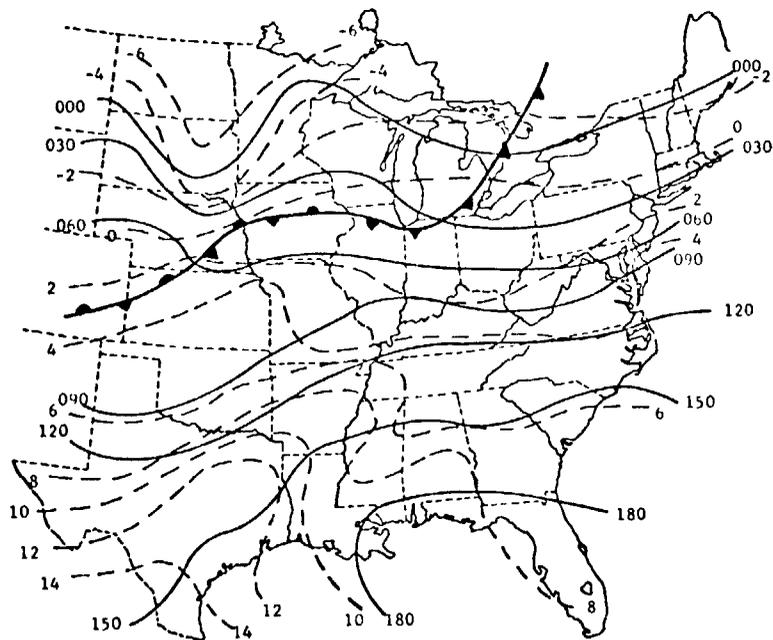


Surface

Figure 9. Synoptic charts for 0000 GMT, 25 April 1975.

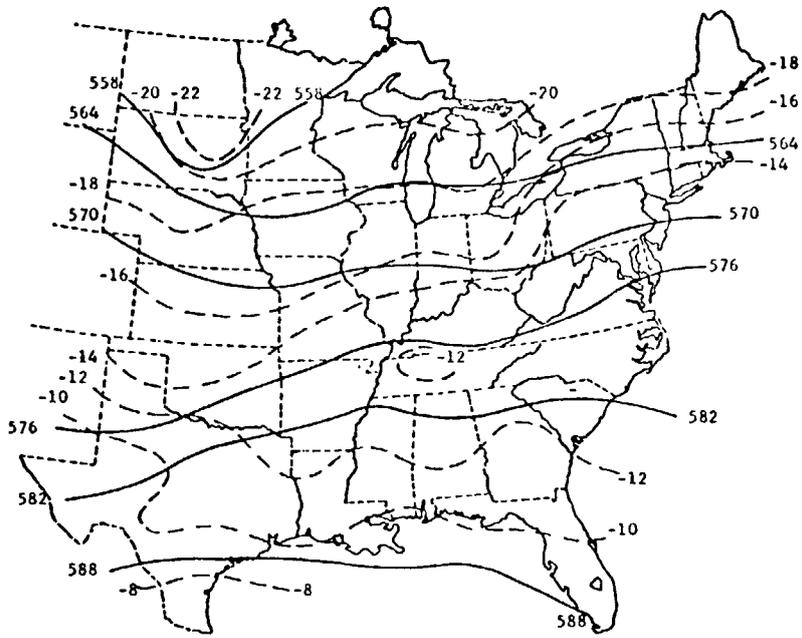


850 mb

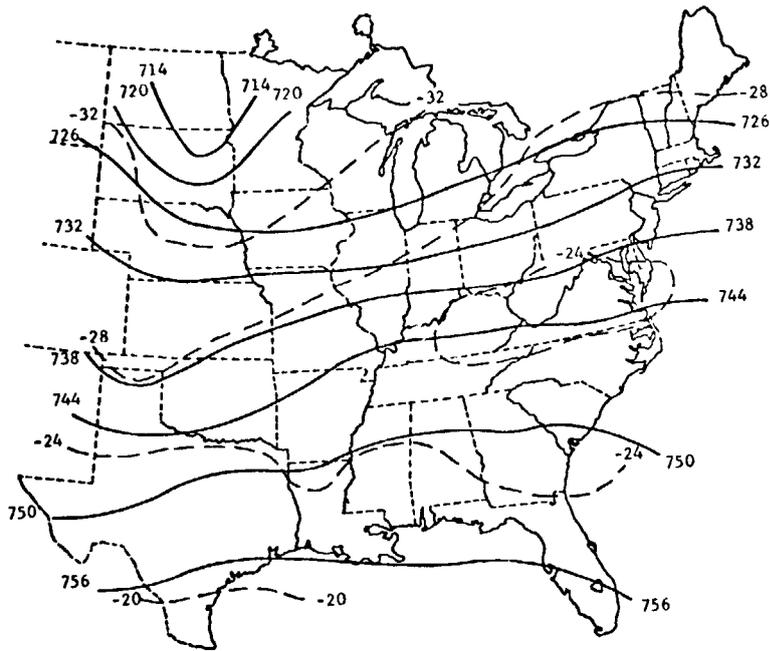


700 mb

Figure 9. (Continued).

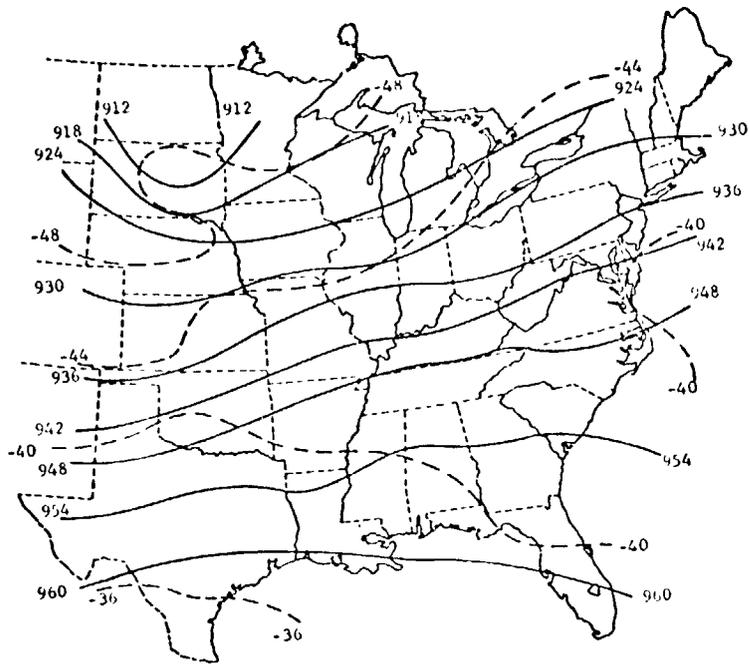


500 mb

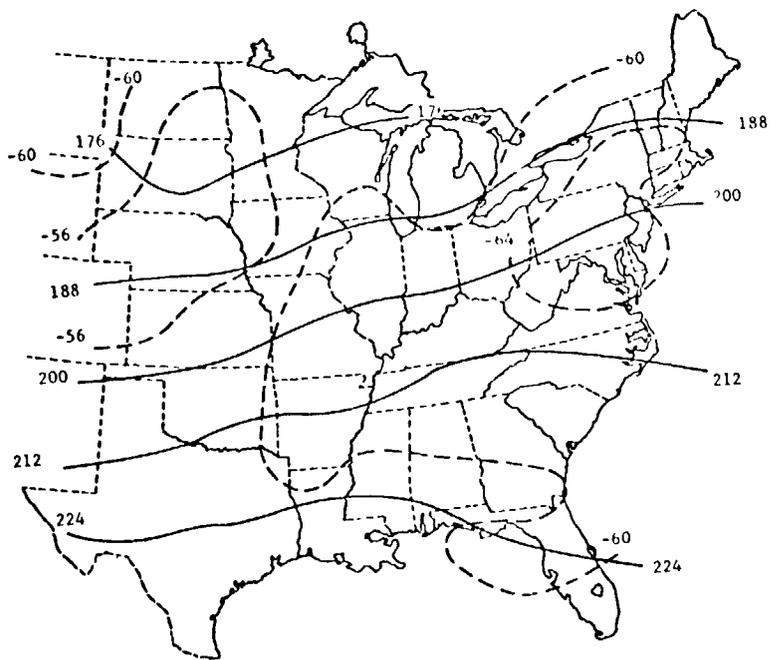


400 mb

Figure 9. (Continued).

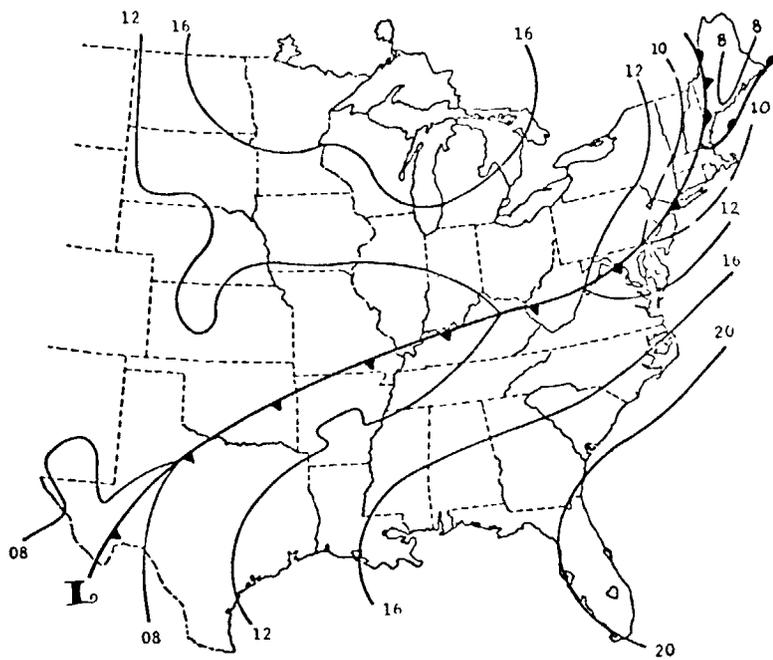


300 mb



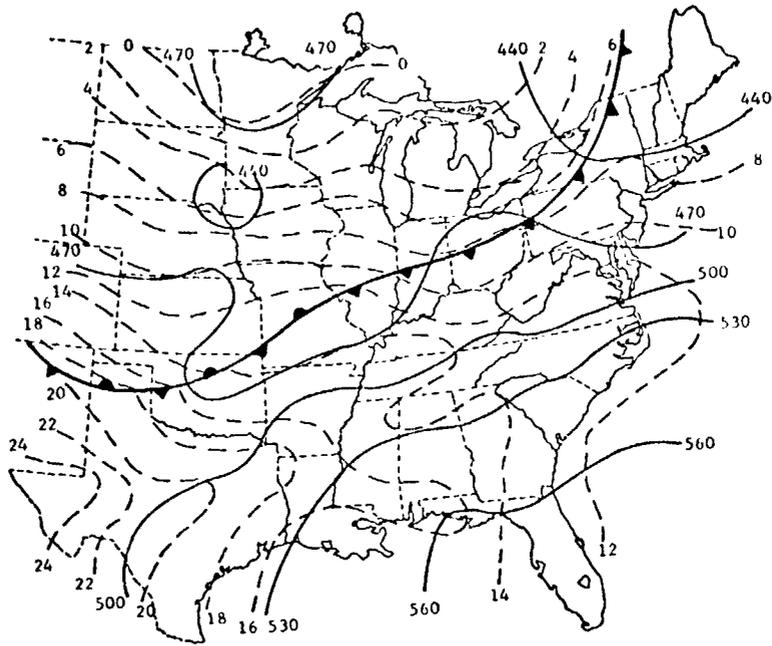
200 mb

Figure 9. (Concluded).

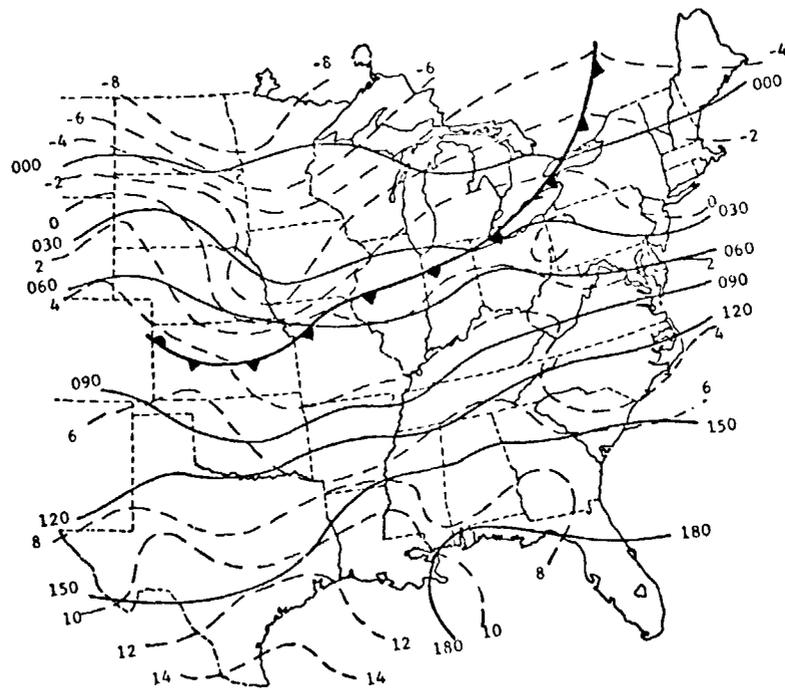


Surface

Figure 10. Synoptic charts for 0600 GMT, 25 April 1975.

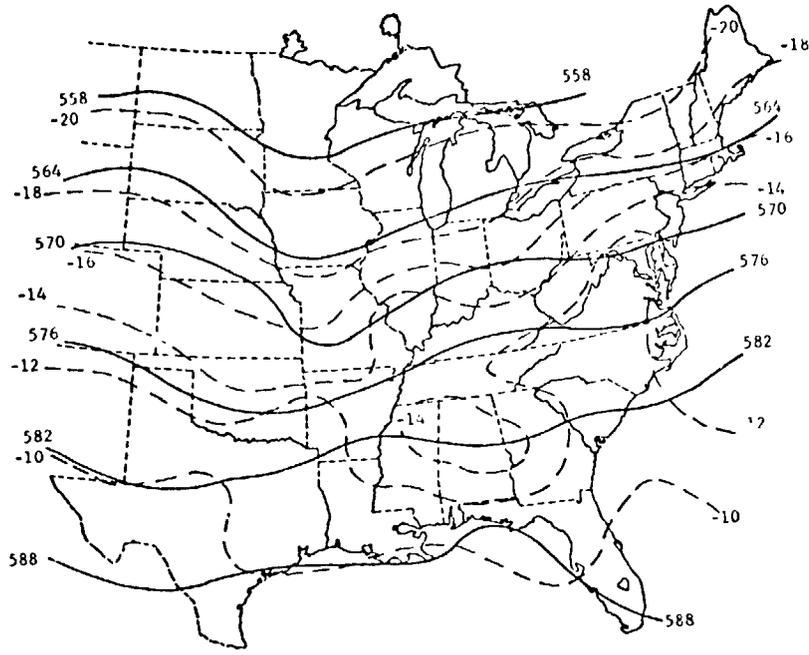


850 mb

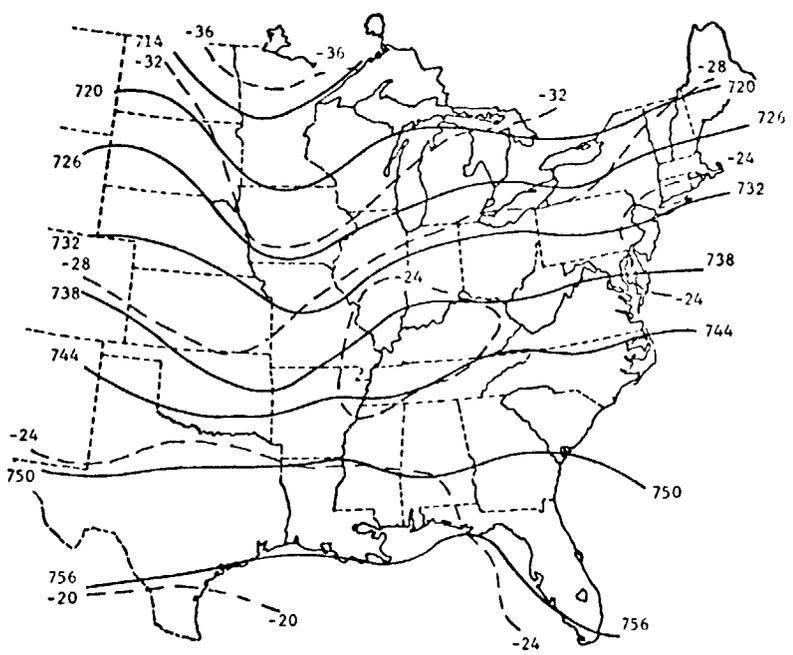


700 mb

Figure 10. (Continued).

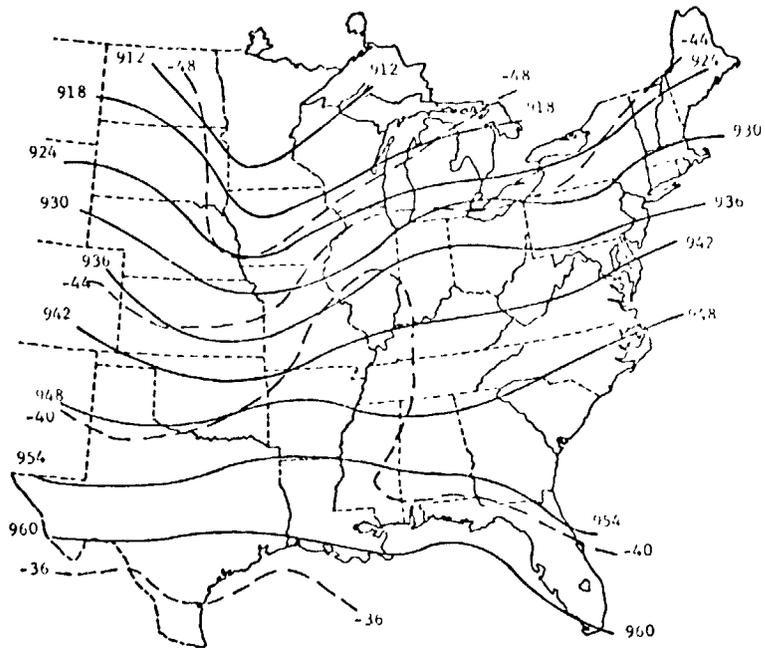


500 mb

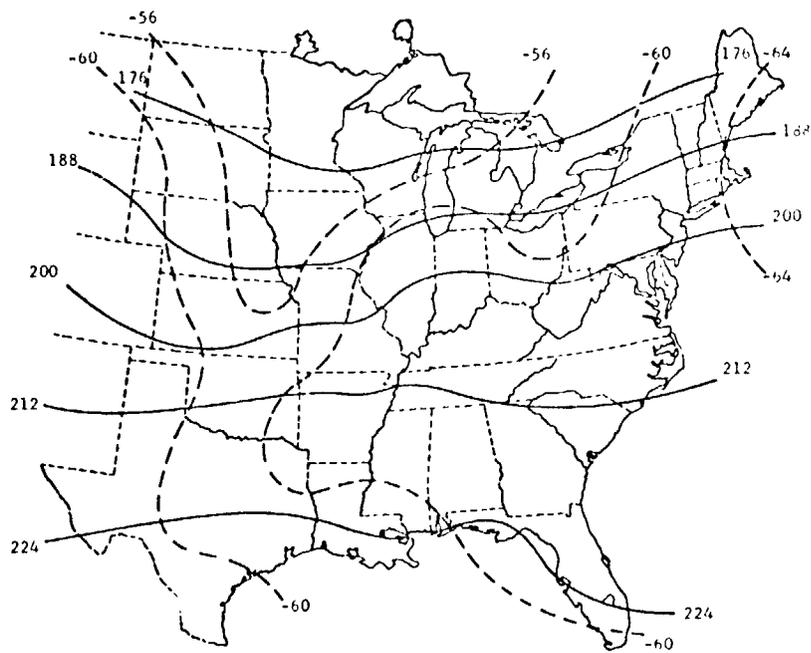


400 mb

Figure 10. (Continued).

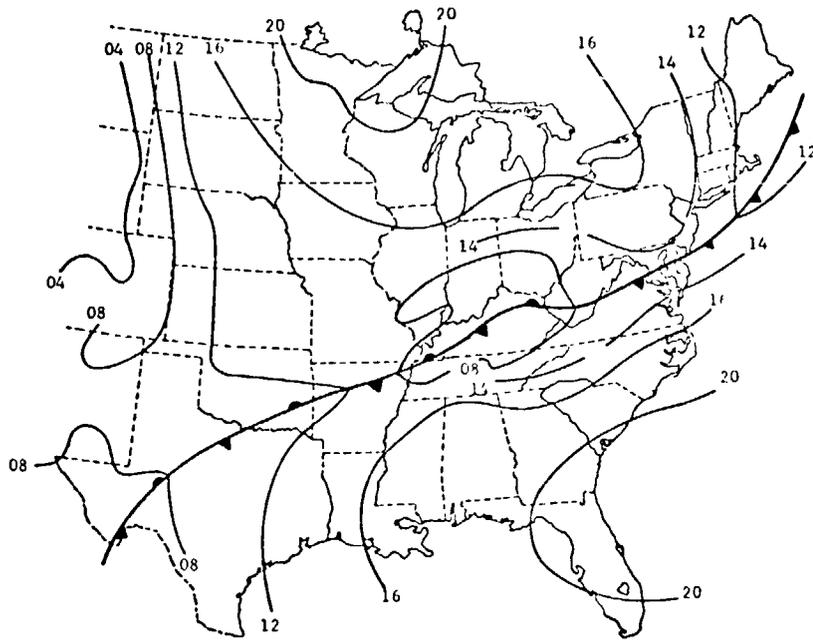


300 mb



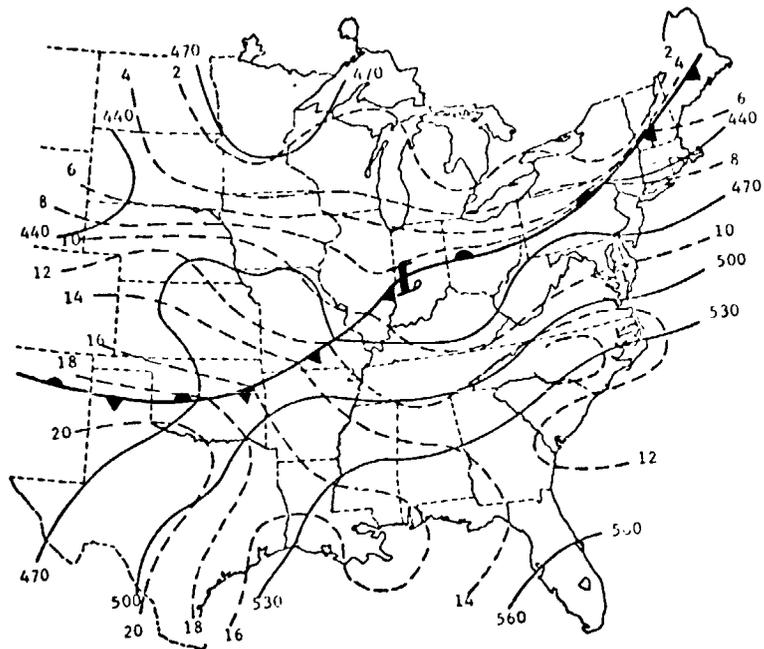
200 mb

Figure 10. (Concluded).

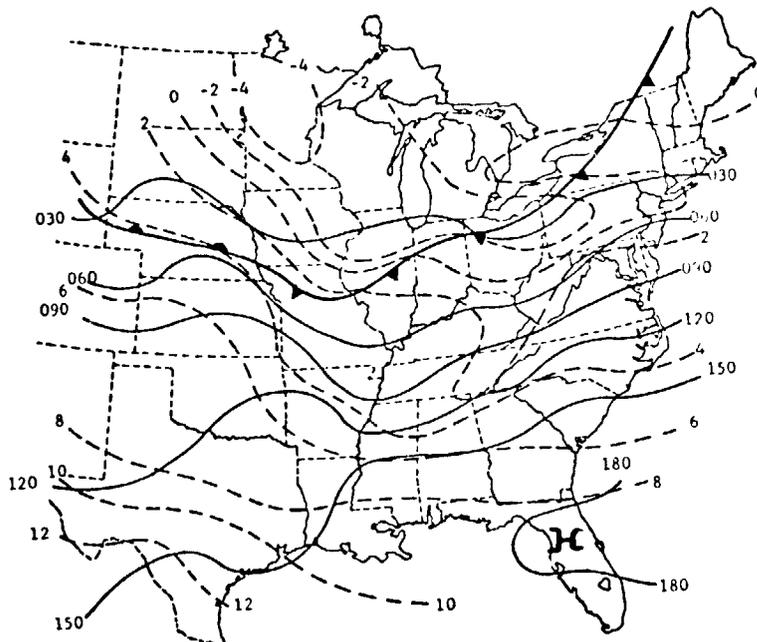


Surface

Figure 11. Synoptic charts for 1200 GMT, 25 April 1975.

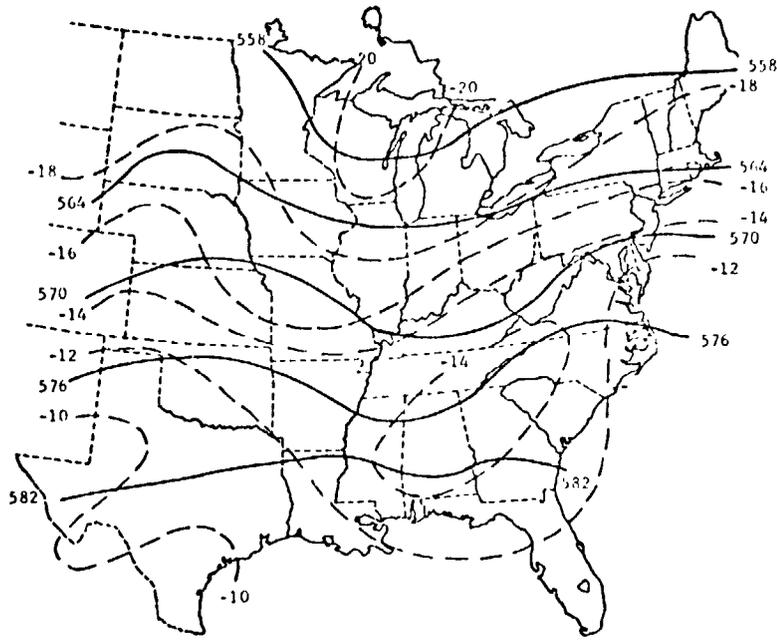


850 mb

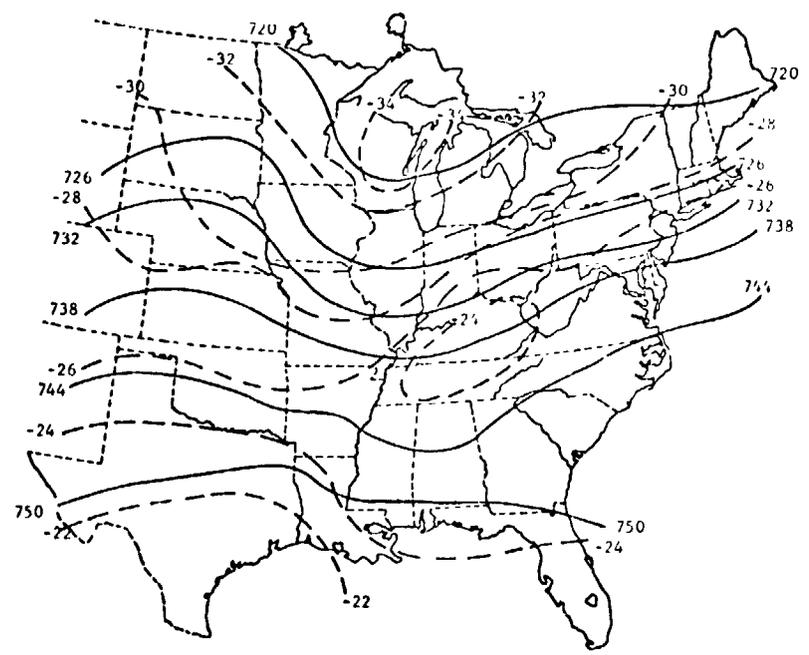


700 mb

Figure 11. (Continued).

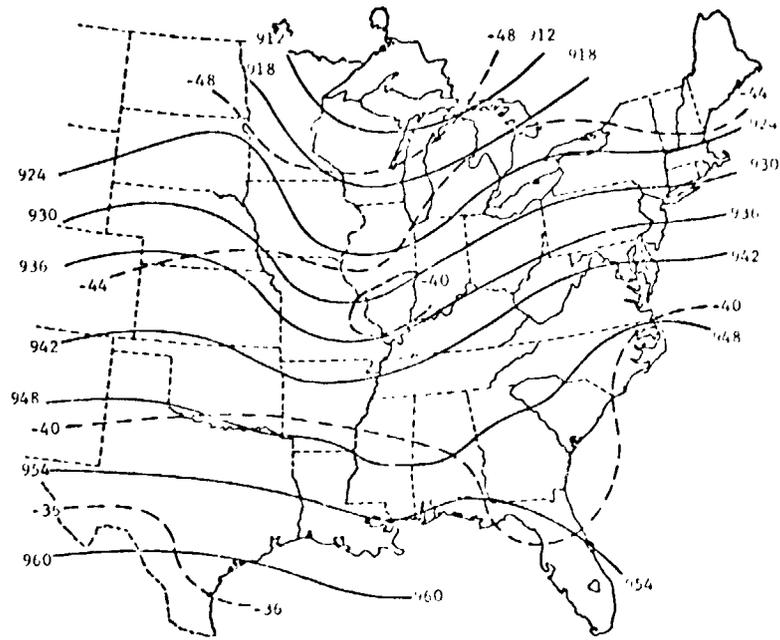


500 mb

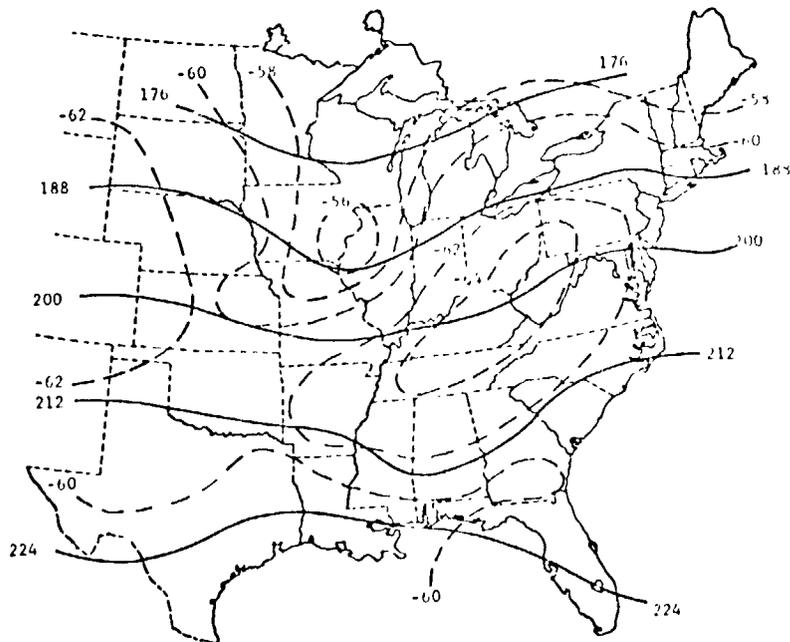


400 mb

Figure 11. (Continued).



300 mb



200 mb

Figure 11. (Concluded).

REFERENCES

1. Scoggins, J. R. and Smith, O. E.: Data for the First NASA Atmospheric Variability Experiment (AVE I). Part I: Data Tabulation. NASA Technical Memorandum TM X-2938. Marshall Space Flight Center, Alabama, 1973.
2. Scoggins, J. R.: Data for the First NASA Atmospheric Variability Experiment (AVE I). Part II: Graphical Presentation of Data. NASA Technical Memorandum TM X-2948. Marshall Space Flight Center, Alabama, 1973.
3. Scoggins, J. R.; Fuelberg, H. E.; Carlson, R. D.; Phelps, R. W.; and Bellue, D. G.: A Compilation of Studies from the Atmospheric Variability Experiment (AVE). NASA Contract Report CR-2304. National Aeronautics and Space Administration, Washington, D.C., 1973.
4. Fuelberg, H. E.: Reduction and Error Analysis of the AVE II Pilot Experiment Data. NASA Contractor Report CR-120496. Marshall Space Flight Center, Alabama, 1974.
5. Scoggins, J. R. and Turner, R. E.: Data for NASA's AVE II Pilot Experiment, Part I: 25 mb Sounding Data and Synoptic Charts. NASA Technical Memorandum TM X-64877. Marshall Space Flight Center, Alabama, 1974.
6. Fuelberg, H. E. and Turner, R. E.: Pressure Contact Data for NASA's Atmospheric Variability Experiment (AVE II). NASA Technical Note TN D-7914. National Aeronautics and Space Administration, Washington, D.C., 1975.
7. Fuelberg, H. E. and Turner, R. E.: Data for NASA's AVE III Experiment: 25 mb Sounding Data and Synoptic Charts. NASA Technical Memorandum TM X-64938. Marshall Space Flight Center, Alabama, 1975.

APPENDIX A
SOUNDING DATA

These data are presented on microfiche as follows:

	Page
24 April 1975, 0000 GMT	52
24 April 1975, 0600 GMT	92
24 April 1975, 1200 GMT	134
24 April 1975, 1500 GMT	176
24 April 1975, 1800 GMT	217
24 April 1975, 2100 GMT	258
25 April 1975, 0000 GMT	300
25 April 1975, 0600 GMT	342
25 April 1975, 1200 GMT	382

PRECEDING PAGE BLANK NOT FILMED